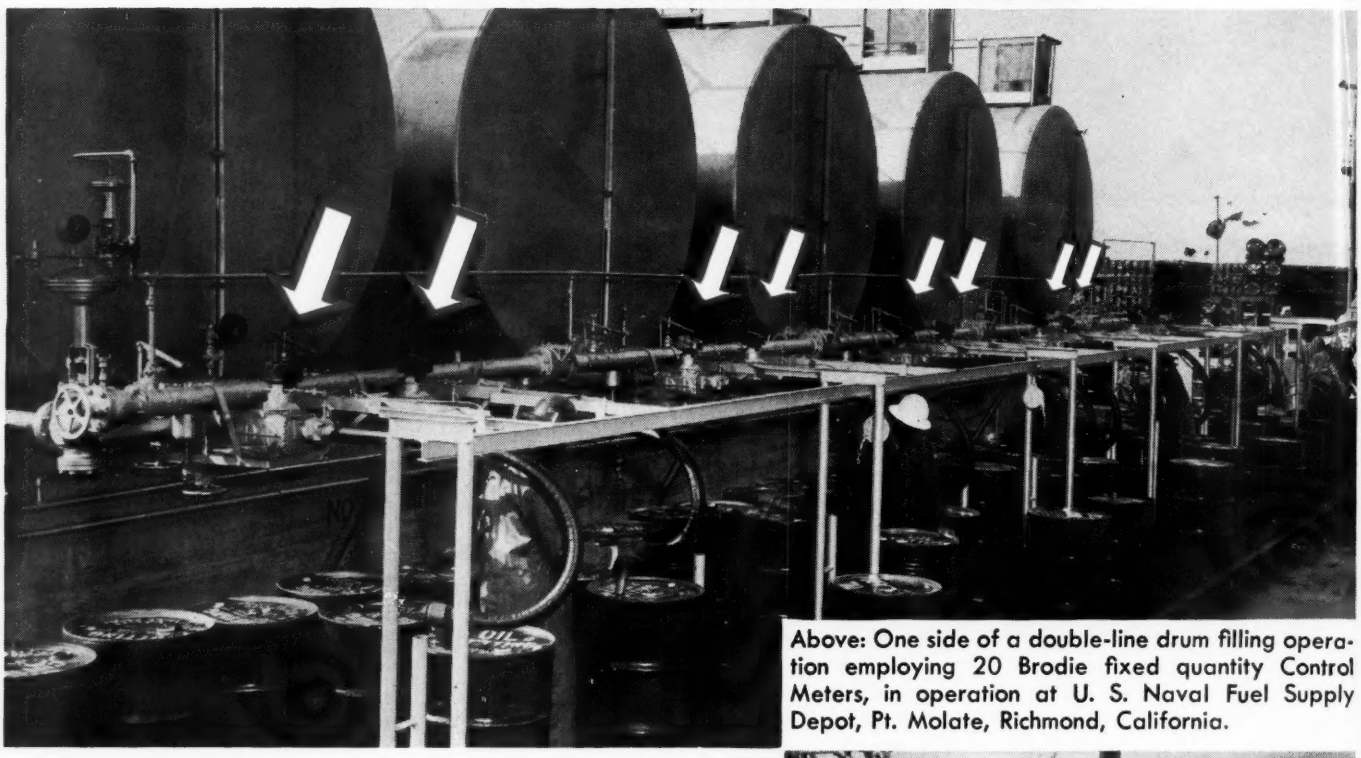
...OF MICHIGAN
JUL 16 1951
...ENGINEERING

JULY
1951

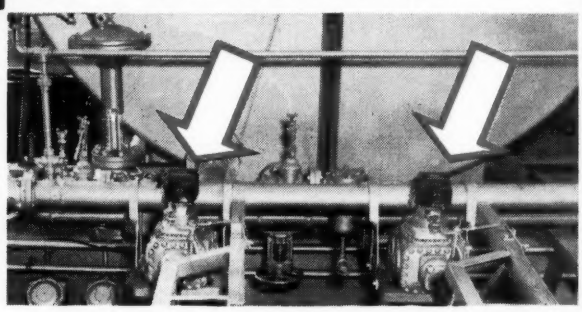
fueloil & oil heat

PRODUCTION LINE FILLING
- of 700 Drums Per Hour



Above: One side of a double-line drum filling operation employing 20 Brodie fixed quantity Control Meters, in operation at U. S. Naval Fuel Supply Depot, Pt. Molate, Richmond, California.

—with BRODIE
fixed Quantity Control METERS



Two Brodie Quantrol Meters are installed at each drum filling station for fast, continuous production-line operation.

High speed barreling, packaging, blending or mixing of petroleum products is handled on a continuous production line basis by Brodie Meters equipped with fixed quantity repeating Quantrols. An operator has only to open the valve for each filling, and the Brodie Quantrol shuts off *automatically* when the set quantity is reached. Both the exact volume and the number of containers filled are progressively totaled on separate totalizers. The package totalizer can be reset to zero at the end of each run, batch or filling operation.

Investigate today. Write for bulletins No. 621 & 622.

BRODIE METERS

DEPENDABLY ACCURATE

RALPH N. BRODIE CO., INC. • 61st & LOWELL STREETS, OAKLAND 8, CALIFORNIA, U.S.A.

Division Offices: 550 SO. COLUMBUS AVE., MT. VERNON, N.Y. • 59 E. VAN BUREN, CHICAGO 5, ILL. • 302 SO. PEARL STREET, DALLAS, TEXAS
221 9th AVE., N. SEATTLE 9, WASH. • 2101 S. SAN PEDRO, LOS ANGELES 11, CALIF. • *REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES*

JULY fueloil & oilheat 1951

VOLUME 10 NUMBER 7

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ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE AT BALTIMORE, MD.

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Among other things . . .

Because of starting a commercial-industrial oilburning section in the magazine this month, the cover picture was selected for a tie-in. We don't have the names of the gentlemen shown nor the name of the burner itself. The photo was snapped at the heating show in Philadelphia last winter.

The regular sections of the magazine contain the usual variety of features and departments. There's the article about the Yankee oilheating dealer "down the Cape" who has shown more than usual ingenuity in handling the details of a fueloil and burner business.

Harland Ragle gets to cracking the whip this month over dealers who obviously don't know their costs, judging by some of their actions. There are two more to come in his series, and the way his blood pressure is building up, there'll probably be shootin' before the windup.

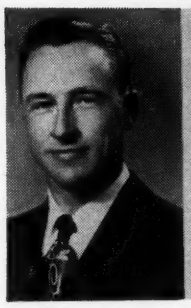
Names in the News

Fred S. Burroughs has been appointed national secretary, Distribution Division, Oil-Heat Institute of America, Inc., New York, N. Y., to coordinate the activities of 1,500 oilheating equipment and fueloil dealer members in 25 Division Chapters and 170 associate members in other areas. Mr. Burroughs has operated his own companies in the distribution and manufacturing fields and previously was with Shell Oil Co. in New York as assistant to the manager of public relations. His first assignment with Shell was as a member of its sales promotion-advertising department in charge of advertising and sales promotion efforts for a number of products, including fueloil. A background in advertising and marketing research preceded his initial connection with the petroleum industry. *William O. Spiess,* whom he has succeeded, recently announced that he had taken a position with the Fitzgibbons Boiler Co., New York 17, N. Y., and will be engaged in sales promotion work.

Burroughs

Spiess

Carl W. Wright and *Andrew P. Kelly* have been named district sales managers, Timken Silent Automatic Div., Timken-Detroit Axle Co., Jackson, Mich. Mr. Wright's territory includes the South Atlantic states and Mr. Kelly's, western Pennsylvania. Both men have broad heating experience and completed the company's factory training course before being assigned to their respective territories.



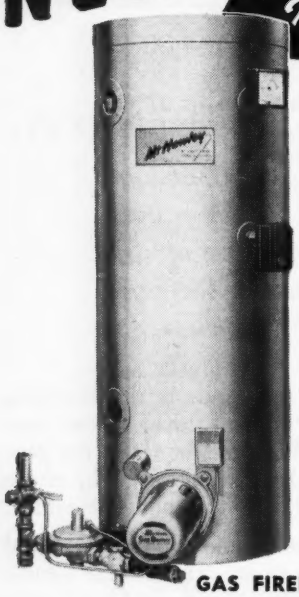
Wright

Kelly

Curt H. Sundell has been appointed representative in northern New Jersey for Bell & Gossett Co., Morton Grove, Ill. He has been representing the company in Washington, D. C. for the past 4 years and has been with the firm since 1937. For the past 10 years Mr. Sundell has been active in the company's engineering, production and sales department and has played an important part in the training program of the I-B-R. *Frank C. Hackett,*

NEW! Mt Hawley "BUDGETEER" BOILER BURNER

Ideal for Today's "Small Home" Market



GAS FIRED

Here's a high quality, space-saving, low cost boiler especially designed to meet EVERY requirement of the ever expanding "small home" market.

Its efficient dimensional design lends itself excellently to either basement or utility room installations.

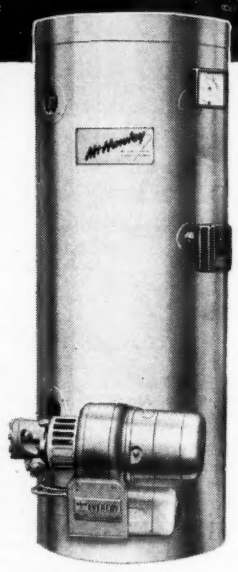
The outstanding new Mt. Hawley "Budgeteer", featuring heavy gauge, slanting tube construction, can be quickly and easily converted from oil to gas or vice versa.

It is available with domestic water coil and has a capacity of 510 ft. of hot water radiation.

Priced right, it is shipped completely insulated and jacketed for quick, easy installation.

Cash in — now — by stocking the new Mt. Hawley "Budgeteer" — the boiler especially designed for the "small home" market!

Complete details sent on request.



OIL FIRED

SIMPLE INTERCHANGEABILITY

GAS TO OIL OIL TO GAS

In the matter of minutes, the "Budgeteer" can be changed on the job from oil to gas or vice versa. This flexibility of firing equipment is a feature of interest to architects, engineers, builders and tradesmen alike, as it permits the owner to have the fuel of his choice NOW OR LATER.

MHCoM Mt Hawley MFG. CO.

Mt. Hawley Airport, Peoria 4, Illinois

Autocars have kept pace with growth of Western trucking

AUTOCAR has pioneered in supplying superbly engineered trucks suited to the needs of Western trucking operators. Today more than ever, haulers in the West, as everywhere else, depend on Autocars to move goods in volume over long distances and at low cost per ton-mile.

Shown here are two Autocars which illustrate the growth of Western trucking. 30 years ago, Art Paxton, of Los Angeles, went into business for himself with his first Autocar. He used this 2-cylinder model to haul sacked cement for George L. Eastman Co., of the same city. This year, Paxton Trucking Company (A. P. Paxton, owner), one of the leading Western hauling concerns, took delivery of their newest Autocar, a DC-10064 Autocar-Diesel six-wheeler to serve as a tractor. Paxton Trucking Company now do general trucking, oil-field hauling, and contract hauling for Kaiser Steel Company.

Autocar Trucks

1... Haul big loads
2... Control the load
3... Are strong all over
4... Are dependable
5... Are economical
6... Make man-hours productive
7... Keep pace with traffic
8... Are virtually custom built
9... Have extra power when needed
10... Are long-lived

The Autocar Company, Ardmore, Pa. • Established 1897 • Factory Branches and Distributors from Coast to Coast

86% NOW USE Guardian COUPLINGS

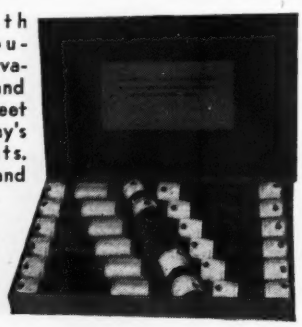
New Extruded Splined Type Guardian Flexible Coupling

Yes . . . 86% of the nation's original equipment manufacturers of oil burners in the United States are using Guardian flexible couplings. This enviable position was earned through dependability, quiet operation and long life in millions of installations. Specially treated for oil resistance . . . nothing to lubricate . . . nothing to get out of order . . . easy to install. Guardian Flexible Couplings are available in the regular set-screw type and in the new extruded splined sleeve design, fitting the hub with a close .001 inch tolerance. Both types are supplied in a variety of standard sizes or to your specifications.

Regular set screw type

COMPLETE ASSORTMENT SERVICE KIT

Contains both types of couplings in a variety of sizes and bushings to meet 97% of today's requirements. Keep it filled and be ready to make the extra profits on flexible coupling replacements.

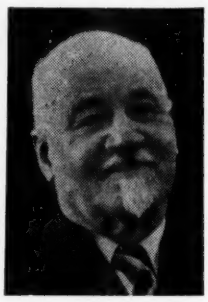


Guardian PRODUCTS CORP.
COUPLING DIVISION

Dept. F-71, 1215 E. Second St., Michigan City, Ind.

Michigan City, Indiana

sales promotion manager of the company, has succeeded him in Washington.



Homer Addams, chairman of the board of directors, Fitzgibbons Boiler Co., Inc., New York 17, N. Y., received the honorary degree of Doctor of Science at the commencement exercises of Albright College, Reading, Pa. on June 3. Mr. Addams has been associated with the engineering profession and the heating industry for many years. He became president of Fitzgibbons in 1921, led the company through a period of expansion and progress for the next 25 years. His son, Paul K. Addams, succeeded him as president in 1947.

David McEwen has become sales manager, Rochester Mfg. Co., Rochester, N. Y., to handle sales of liquid level, pressure and temperature gauges and special government sales. He has had ten years of plant experience in the production of gauges and test kits, having been with Rochester since 1936. Mr. McEwen's efforts will be concentrated on commercial and industrial sales, assisted in the sale of oilburner tank gauges by *John W. Kershaw* and of industrial thermometers by *Ralph Foster*.

E. W. "Pat" Smith has been elected a vice president by the board of directors, Owens-Corning Fiberglas Corp., Toledo 4, Ohio. At the same meeting *John W. Overman* was named assistant secretary. Mr. Smith, who joined the company in 1949, is in charge of merchandising and advertising programs, branch office contacts, sales recruiting and training activities in the general sales department. Mr. Overman, with the company since 1940, is in charge of the Patent Division.

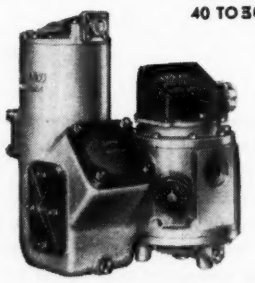
Granco

YEARS FOR SALE!

34 years of experience making fine pumps and meters. Years of learning the needs of the petroleum industry and how to fill them. That's what we have to sell. We sell it in the compact form of Granco pumps and meters!

TRUCK METERS

SIZES 40 TO 300 GPM



Compact and fast, Granco Meters have an accuracy and dependability that only specialized experience in meter design can attain.

TRUCK PUMPS

SIZES 45 TO 300 GPM

For compact design, ease of mounting, lasting pumping efficiency, you can't beat a Granco Pump — another product of Granco's years of experience and inventive genius.

SEE YOUR DEALER OR SEND THE COUPON BELOW

Granco
METERS AND PUMPS
GRANBERG CORP.
1308 SIXTY-SEVENTH STREET
OAKLAND 8, CALIFORNIA

Please send me literature on:

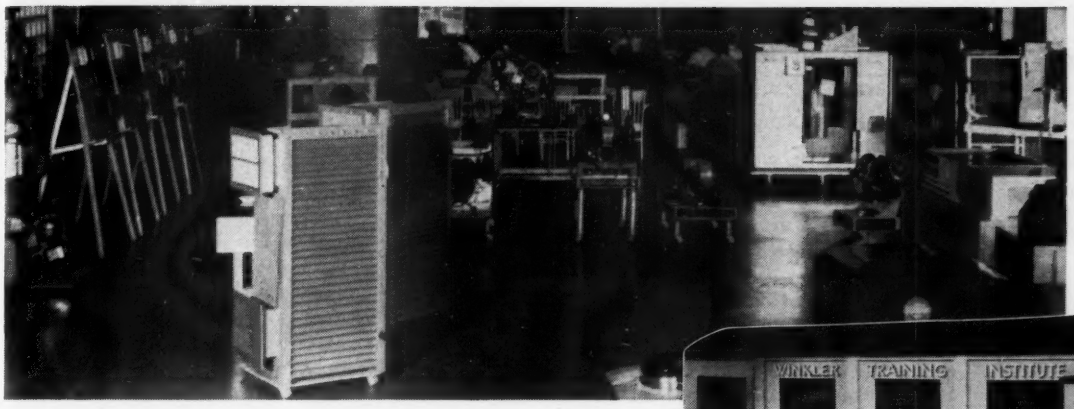
GRANCO TRUCK METERS ☐

GRANCO TRUCK PUMPS ☐

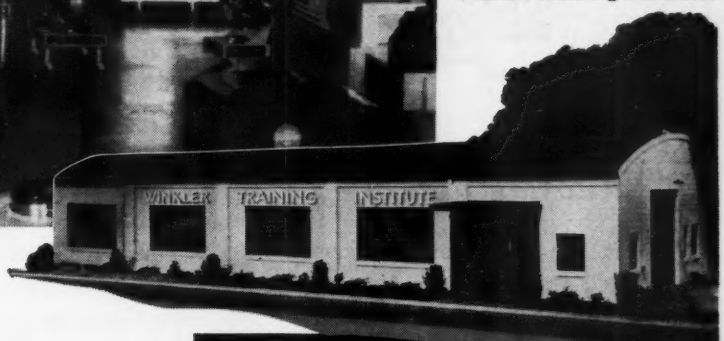
NAME_____

CO._____

ADDRESS_____



Winkler Training Institute Classroom in session.



A building designed especially for the purpose houses Winkler Training Institute.

TRAINED TO MAKE MONEY!

Instructor explains advantages of Winkler Econ-O-Flow design.

Trainee sells Winkler LP Burner to instructor, who offers advice and helpful comment.*

Winkler Training Institute turns average salesmen into stars in record time

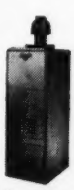
In 1951, Winkler Heating Equipment sales are showing a phenomenal increase. The reason is two fold:

1. **A line of outstandingly better products** . . . *so complete that every type of buyer can be satisfied!*
2. **The Winkler Training Institute** . . . *a school which teaches dealers and their personnel how to turn Winkler Products into profits!*

In a new, completely equipped $100,000 building, Winkler employs modern Army training methods to speed up learning. In the sales and engineering schools, Winkler trainees *hear . . . see . . . and actually do the things* which assure successful selling and the proper application and installation of Winkler Products. Individualized instruction hammers home the Winkler proved principle that sales are made by knowledge of product . . . confidence . . . will to sell!

Typical quote from Winkler Dealer—"Judging from the reaction of our new salesman who just returned from your Retail Sales Training Clinic, your classes are conducted by men who not only know how to sell but can teach selling. He commented that although he had been selling in other fields for several years, he had not realized the many ways in which he could improve his salesmanship. His enthusiasm and *his 300% increase in sales* since his return are evidence of the benefit he received."

Winkler Training Institute courses are *free* to Winkler dealers and their men. Write today for complete details.

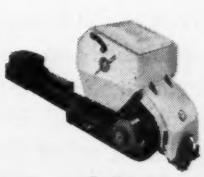


Gas-fired Furnaces

Low and High Pressure Oil Burners

Oil-fired Boilers and Furnaces

Wall Furnaces



Stokers

Gas Conversion Burners

AMERICA'S MOST COMPLETE LINE OF FINE HEATING EQUIPMENT

WINKLER

AUTOMATIC HEATING EQUIPMENT

U. S. MACHINE CORPORATION
Dept. H-71, Lebanon, Indiana

fuel oil oilheat

Editorial Leaks

WITH THIS ISSUE the magazine starts an enlarged service to the industry. Commercial and industrial oilburning are to occupy a regular part of each number in the future. This move has been under consideration for quite some time. The decision to go ahead with it came largely as a result of dealers in heavy oil equipment asking the editor to provide a medium for exchange of views within their scope of the oilburning industry.

Naturally, any new undertaking has to crawl before it can walk, before it can run. This month's presentation of the new section has some good writing and we think you'll like it. We'll do our best to progressively improve and make it more useful as we learn just what the industry needs.

If you as a reader have some good material for this section, we'd be very glad to have you send it to the editor . . . short items, long items, news items, anything on heavy oil burning that contains real information that would be helpful to the industry as a whole. We ask your cooperation so that between us we can make this new section what you want it to be . . . a help to your profits.

❖

THE NEW "Handbook of Oil Burning" by OHI has been published and is now being distributed within the industry. As a successful undertaking it's a classic. Industry authors, 48 of them, have collaborated with their particular skills to make this volume a reservoir of contemporary oilheating thought.

This volume has been in the works for three years. After organizing the flow, the continuity of the book, and getting the authors to send in their manuscripts to fit the pattern there remained an enormous job to do. Drawings and charts had to be laid out and artists found to make them in professional form.

There were numerous divergences of opinion between the writings of separate authors; these had to be reconciled and a compromise position established so that the book would not hold different views in succeeding chapters.

Ted Kaufman, OHI's technical secretary, took the brunt of this load. Frank Faust of General Electric and former chairman of the Institute's Engineering Committee, takes responsibility for policy decisions as editor-in-chief. The eight section editors did a wonderful job shepherding the authors in their groups. This Handbook is a praiseworthy achievement . . . that's for sure!

❖

BELL & GOSSETT CO., in a tribute to the power of advertising in building up its phenomenal position in heating specialties, announced in the May 28 issue of "Advertising Age" that its advertising space used in 1951 will be just 100 times what it first used 24 years ago.

❖

A. J. MCINTOSH, economic mastermind for Socony-Vacuum, has come forth with an interesting observation. He says that nearly two-thirds of all oilburners in use today have been put in since the war. Thus, they are relatively modern, more efficient than most of the prewar burners, with the result that we can look forward to a continuation of the present low average fueloil consumption.

His observation caused us to make a check of the figures. At the start of this year there were 5,172,134 domestic burners and units operating in the U. S.

At the close of 1945 there had been 2,517,055. So the increase in fueloil customers has been 2,655,079, or we have slightly more than doubled the war-end total. But that is not all of the new burners that have gone in. Actually, during the five intervening years we installed 3,297,448. The difference between that figure and the 2,655,079 rise in fueloil customers, or 642,369, represents the replacement sales and the losses to other fuels.

Virtually all of the 3,297,448 new sales since the war are in operation today. It was the older ones that were replaced or lost to other fuels. Those new sales represent 64% of all burners in use when this year started.

Adding to this those sold in the four fall months of 1945 after VJ Day and the nearly 200,000 installed so far this year, we can recognize the truth of Al's statement . . . that two-thirds of present burners are postwar crop.

To an oil man this has implications in demand figures. To the oilheating industry generally it has another implication . . . we can't be mistreating the American public very badly when so much of our product is so new, with improved efficiencies and most other operating characteristics. We'll always fight for better service, better public treatment, because we're far from perfection and we've got to keep growing in competence . . . but we're not too far in arrears on those points.

The Old Timers love to get together once or twice a year for a "happy days" conclave. Twenty and thirty years ago were wonderful, they still are in retrospect. But would it be impolitic to remind ourselves that the vast oilheating industry of today is essentially a postwar development? Come to think of it, it's the youngsters in our industry that are earning for us most of the dividends.

❖

THE LATE WARD Halbert used to say, "Those who can, do . . . others teach." This came to mind the other day when someone sent us a clipping about the violent water heater explosion in the home of Fred Ravnsbeck at Lockport, Ill. Fred is the author of several important heating and oilheating books. He's now active in the industry with Staffco, Chicago. He's designing and installing equipment to keep things comfortable and safe for other people and probably never goes near his own heating plant. In your next book, Fred, tell them how to put a house back together.

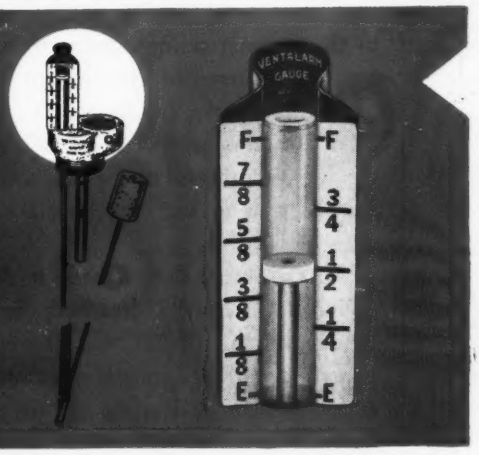
SCULLY FUEL OIL DELIVERY AIDS

for conservation of fuel, time, equipment and man-power

VENTALARM®

WHISTLING TANK FILL SIGNAL

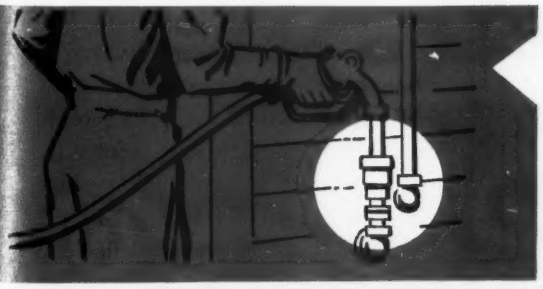
For installation on new and old fuel oil tanks. Driver just fills 'til the whistle stops. Prevents spills. Eliminates need to enter home. Simplifies degree-day work. Saves five minutes per drop. Decreases delivery costs by 15% to 30%. Models for all vent pipe sizes on both new and old tanks.



VENTALARM® GAUGE

All the benefits of the whistling tank fill signal combined with a tank gauge of super visibility. Read easily even 10 ft. away. Saves installation time and cost. No reducing bushing needed. "Snap-by" float arm adjustable for permanent operation in either direction. You install <u>one</u> item instead of <u>three</u>.

Available for 275 gal. cellar tanks with depths of 24", 26", 27", 42", 44" and 47". Specify tank depth and tank opening when ordering.



FASFILL® CONNECTOR

Portable, hand-tight connection for gun and fill pipes of all sizes. Allows top-speed fills without a drip or blowback. Easy hand turn puts it in place. No tools involved. No buildups necessary. Diaphragm head holds nozzle.

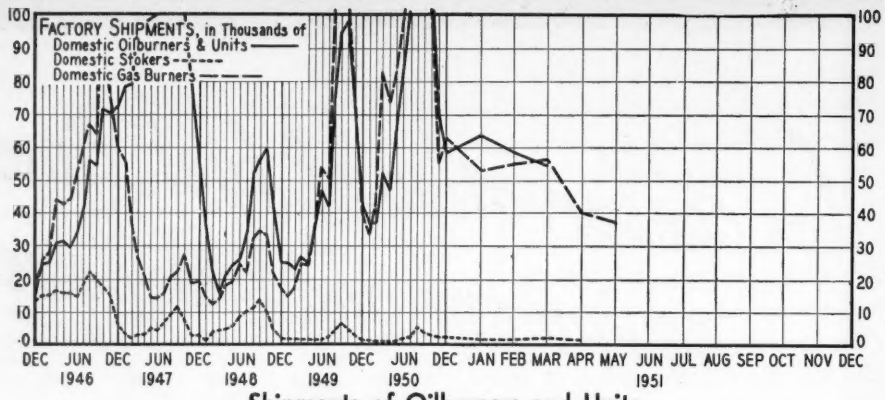
All Scully products are protected by U.S. and Foreign Patents or Patents Pending.

See your regular Supply House or write for information to . . .

SCULLY SIGNAL COMPANY

76 First Street, Cambridge 41, Mass.

Canadian Licensee: EMPIRE BRASS MFG. CO., LTD., London, Ontario

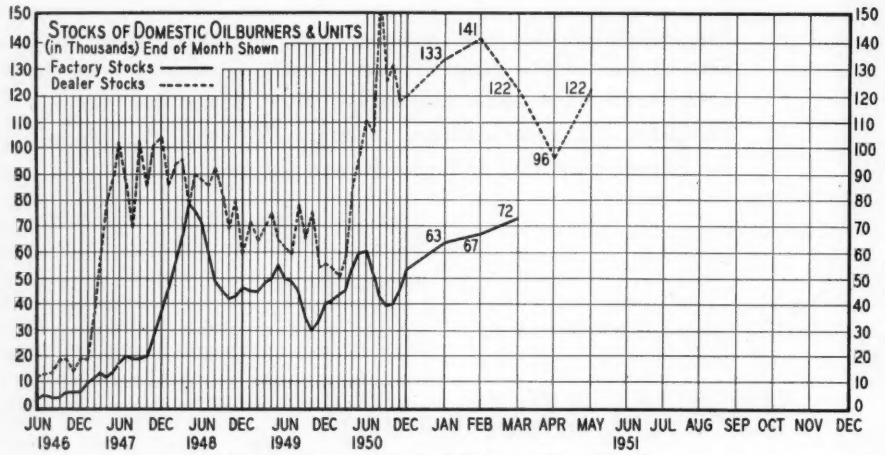

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
Domestic Gas Burners
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1946 1947 1948 1949 1950 1951

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 152 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	MARCH			THREE MONTHS		
	1951	*1950*	*Percent Change*	*1951*	*1950*	*Percent Change*
Conversion	38,231	38,481	— 0.6	123,544	91,891	+ 34.4
Boiler Units	5,747	4,433	+ 29.6	17,694	11,129	+ 59.0
Furnace Units	10,995	9,384	+ 17.1	36,213	22,908	+ 58.1
All Domestic	54,973	52,298	+ 5.1	177,451	125,928	+ 40.9
Commercial	4,016	2,422	+ 65.8	11,582	6,115	+ 89.4
Total	58,989	54,720	+ 7.8	189,033	132,043	+ 43.1



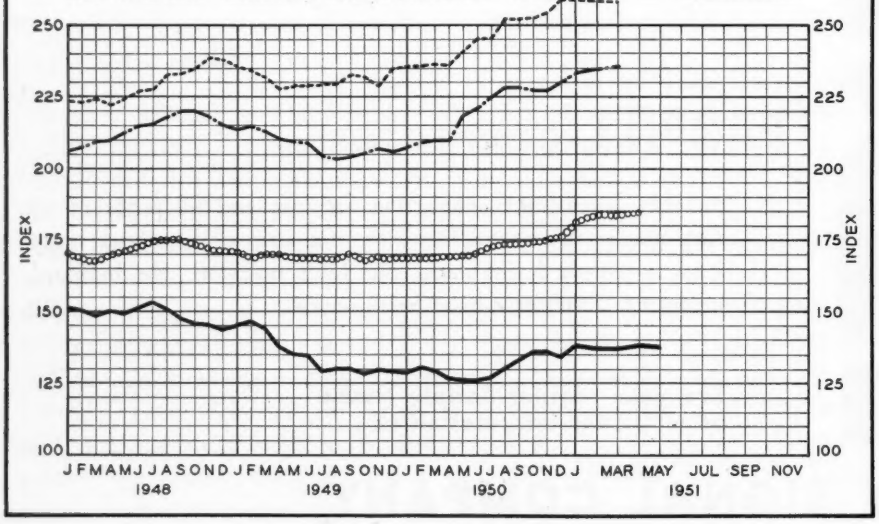
May Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
May Aver.	$332	$680	$620
April Aver.	331	684	616

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
May	138.8	Six months ago	134.0	May	136.6	Six months ago	136.3
April	137.2	Year ago	126.6	April	138.1	Year ago	126.4

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTRUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
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1948 1949 1950 1951

Oilheating Trends

MAY SHOWED another drop in oilburner installations. The estimated total of domestic oilburners and units installed during the month was 47,892, compared with 66,855 last year, or a drop of 28%. This is the third successive month showing a decline.

Total installations for the first five months of the year were 187,381, against 203,900, or a drop of 8%.

The May installations were divided: New homes 10,359; Replacements of old oilburners 6,168; Conversions from other fuels 31,365.

BURNER STOCKS: May saw a rise in burner stocks, ending the month with 122,087 domestic burners and units in the hands of dealers. This is almost the same as stocks two months ago but in the intervening month they had dropped to 96,255. It was generally recognized that bankers were putting pressure on dealers to get their stocks down and this was reflected in declines in March and April. During May, however, dealers obviously felt that they were getting near enough to the summer selling season to warrant larger inventory investment.

Factory stocks on March 31, the latest available data, were 72,360, continuing the uptrend of the past several months, and in fact, reaching a two-year high point.

TANK STOCKS: Fueloil tanks in dealer hands on May 31 reached the all time high figure of 157,882. This compares with 138,013 the previous month and shows the dealers are getting prepared for a strong summer season. This heavy buying of tanks has also been influenced by the common opinion that steel will become progressively more scarce as the months advance. It is especially interesting, however, to notice that the average price for a 275 gallon tank dropped again this month, reaching $42 or the lowest point since last September. In April the average had been $44 and in March $46. Of course, the present price is still 50% above prices a year ago but the declining price curve shows that the tank manufacturers no longer have everything their own way.

By sections of the country the average May price for a 275 gallon tank

THE REVOLUTIONARY NEW

Combustioneer®

LOW PRESSURE⊙ OIL BURNER

EXCLUSIVE *Combustioneer* ADVANTAGES!

- "A flip of the finger" selects required oil capacity from .65 to 3.0 GPH with burner operating.
- No pistons to change.
- No pumps to add or change.
- Secondary air, and oil capacity adjustable while burner is running.
- No lift pump required for outside tank installations.
- No special high speed motor—standard motor used.
- Simple full floating, hydraulically operated piston—no linkage to wear.
- Interchangeable from low to high, or high to low pressure.

MODEL d LP⊙

15 YEAR NOZZLE GUARANTEE

Clog-proof nozzle. Nozzle opening is 30 to 40 times larger than any h.p. nozzles.

The amazingly different **Combustioneer d LP** (low pressure) oil burner has a capacity range from .65 to 3.0 gph. Features a completely new hydraulically operated compound air and oil metering pump with one moving part—*utilizing a free floating piston which floats in a bath of oil.* Operates equally well with inside, outside, or single or double line tank installations—*no extra pump or parts need to be added.* Two hydraulically operated safety shut off valves—*one for the nozzle, the other for the tank.* No other oil burner has *Triple Velocity Visorhead**—three velocity carburetion. Underwriters' Laboratories approved to burn all *domestic fuel oils.*

When you sell Combustioneer products, you offer unmatched quality and dependability, at a competitive price.

Excellent dealer franchises are still available. Write for full information.

WE HAVE OPENINGS FOR TOP-NOTCH TERRITORY SALES MANAGERS!

MANUFACTURERS OF BETTER HEATING EQUIPMENT SINCE 1928

Combustioneer **GAS BURNERS, HIGH AND LOW PRESSURE OIL BURNERS, STOKERS, COAL-GAS-OIL FURNACES, AND HUMIDIFIERS**

TVV*

- High velocity air above nozzle, deflected downward by visorhead.
- Swirling velocity around nozzle thoroughly intermixes oil with air.
- Low velocity below nozzle permits downward deflection.

Combustioneer **DIVISION**
THE STEEL PRODUCTS ENGINEERING COMPANY
SPRINGFIELD, OHIO

CLIP AND MAIL TODAY!

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The Steel Products Engineering Company
1269 West Columbia Street, Springfield, Ohio

Please send me information about a ***Combustioneer*** Franchise.

Name_____

Firm Name_____

Street Address_____

City_____ **Zone**____ **State**_____

was: New England $41; Mid-Atlantic $43; Midwest $41; Pacific Northwest $42.

INVENTORY POLICY: Asked what they plan to do about their inventories through the second half of the year 18% of the reporting group expect to carry them at higher levels; 19% plan to keep them as low as possible; the remaining 63% plan to follow an average or normal inventory course. The one dealer out of five who plans a low inventory policy does it principally because he is uncertain about future sales. The other factor of only a little less importance is the high carrying costs or financial strain of a big inventory.

BURNER SELLING ACTIVITY: One good measure of the dealer's attitude toward burner sales in the second half of the year is the amount of sales effort put forth. We selected two indicators and asked the reporting group about their present actiivty on these points. The total number of oilburner salesmen today is about 5% below a year ago. On the other hand, the money being spent by dealers for advertising at this season of the year is running 7% above a year ago. Combining the two measurements we could say that the promotional policy on sales is about the same as last year. The reduction in number of salesmen is probably the result of the general manpower shortage and high wages stimulated by defense production. The dealers seem to be trying to offset this factor by more vigorous advertising promotion.

There are interesting variations by sections of the country. In New England we find 2% less salesmen and 2% more advertising; in Mid-Atlantic states there are 7% less salesmen and 17% more advertising; the Midwest is negative on both points with 16% less salesmen and 6% less advertising; the Pacific Northwest reverses the national trend by having 11% more salesmen and doing 2% less advertising.

BURNER SALES OUTLOOK: The composite opinion of all reporting dealers on June 1 was that total oilheating installations in 1951 will be 13% less than in 1950. This, of course, is a summary of all of the individual opinions of dealers speaking for their own markets. It is interesting to watch the trends in the comopsite opinions. Asked the same question last December the group expected 1951 sales to be 17% below 1950. In March they expected sales this year to be 1% below 1950 following unexpectedly high sales in January and February. Now we have an estimate 13% below. That is actually a good sturdy figure in view of declining sales during the past three months. It shows that dealers consider this setback to be temporary. If their present prediction proved accurate for

(Please turn to page 126)

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
May		5 MONTHS			May		5 MONTHS	
1951	1950	1951	1950		1951	1950	1951	1950
57	67	283	271	Albany, N. Y.	..	..	..	..
263	342	1234	1742	Baltimore, Md.	516	540	2275	2692
..	..	..	..	Binghamton, N. Y.	13	18	38	42
..	..	..	..	Bloomfield, N. J.	7	17	30	50
..	390	..	1382	Boston, Mass.	26	57	116	143
72	88	368	329	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	53	92	251	311
3	1	13	10	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	109	192	379	712
..	86	..	457	Detroit, Mich.	726	1362	3450	6742
47	108	185	212	Elizabeth, N. J.	4	9	29	28
71	29	187	175	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	52	36	203	154
..	..	..	..	Hackensack, N. J.	15	17	44	90
76	101	895	651	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
61	76	151	196	Irvington, N. J.	6	6	23	26
..	..	..	..	Lynn, Mass.	13	20	48	67
25	5	165	350	Meriden, Conn.	..	..	..	..
71	313	350	1055	Milwaukee, Wisc.	326	424	1160	1367
34	39	260	284	Minneapolis, Minn.	188	246	610	778
33	43	94	105	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	2	8	6	15
18	49	95	160	Mt. Vernon, N. Y.	..	..	..	..
179	265	612	670	Newark, N. J.	..	..	..	..
47	50	295	488	New Bedford, Mass.	..	..	..	..
47	47	209	151	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
48	32	221	113	New Rochelle, N. Y.	10	52	57	90
2367	3158	9978	10456	New York City (total)	..	..	..	..
1800	2576	7559	7974	Brooklyn-Queens	..	..	..	..
567	582	2419	2482	Manhattan, Bronx, Rchd	..	..	..	..
251	61	797	386	Norfolk, Va.	80	123	381	611
..	..	..	..	Oakland, Calif.	..	..	..	..
47	44	252	235	Omaha, Neb.	172	303	457	622
25	34	77	81	Orange, N. J.	5	5	27	8
32	64	82	134	Passaic, N. J.	..	..	..	..
75	155	224	361	Paterson, N. J.	15	15	79	80
355	1038	2990	3252	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	18	16	80	63
44	43	228	167	Portland, Me.	30	19	79	61
377	29	1586	1532	Portland, Oreg.	145	274	733	954
14	15	61	58	Poughkeepsie, N. Y.	..	..	..	..
61	65	307	270	Providence, R. I.	22	34	108	134
..	..	..	..	Reading, Pa.	7	13	40	38
59	103	362	401	Richmond, Va.	49	80	344	331
56	112	197	518	Roanoke, Va.	..	..	..	..
275	349	840	1003	Rochester, N. Y.	..	..	..	..
20	21	104	114	Rockville Center, N. Y.	12	31	46	79
25	47	122	140	Salem, Mass.	8	15	34	41
156	17	448	204	St. Louis, Mo.	66	134	258	456
42	96	298	439	St. Paul, Minn.	141	298	459	660
49	49	333	306	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	209	324	935	1168
..	..	..	..	Springfield, Mass.	103	62	282	285
35	72	314	413	Stamford, Conn.	..	..	..	..
..	12	..	69	Syracuse, N. Y.	4	138	98	278
..	..	..	..	Trenton, N. J.	8	13	25	37
..	..	..	..	Utica, N. Y.	17	29	68	58
48	81	366	668	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	22	54	106	139
45	42	124	105	White Plains, N. Y.	11	7	52	42
60	76	337	318	Wilmington, Del.	15	36	128	150
178	205	618	660	Worcester, Mass.	..	..	..	..
92	102	256	249	Yonkers, N. Y.	..	..	..	..
5942	7733	26918	29432	*Totals*	3225	5119	13537	19602
—23.1		—8.5		*Percent Change*	—37.0		—30.9	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

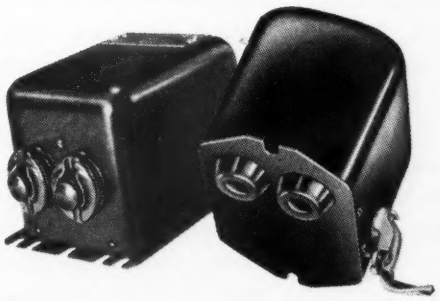
A Famous Signature of a Famous American

● Aside from being the author of the Declaration of Independence and third president of the United States, Thomas Jefferson demonstrated great skill and ingenuity in the engineering of building structures and invention. Included in his many accomplishments were the invention of the mould board for plow shares and a duplicating machine called the Polygraph. The Jefferson signature therefore gained added fame in the mechanical field.

On transformers, the Jefferson signature has become a symbol of outstanding accomplishment and inventive skill. It stands for the integrity of the manufacturer, unmatched uniform quality of product and the never ending quest by Jefferson Engineers for better methods, finer materials, and more efficient transformers to meet the exacting requirements of today *and* tomorrow.

For over 35 years Jefferson has continually developed and incorporated vital improvements that have *earned* Jefferson Transformers their high reputation. Their efficient design, fine workmanship, and unvarying quality assures the long, economical service that has made Jefferson Transformers preferred by prominent oil burner manufacturers and users all over the country.

On Transformers Too The Famous Signature is



Jefferson

JEFFERSON ELECTRIC

JEFFERSON ELECTRIC COMPANY • Bellwood, Illinois

IN CANADA: Canadian Jefferson Electric Co., Ltd., 384 Pape Ave., Toronto, Ont.

Government Influences on Fuels

by
Milburn Petty

WASHINGTON — It seems inevitable that installation of gas furnaces will be restricted in many areas, either by the states or the Petroleum Administration for Defense.

The line pipe shortage has become so acute that there will be none available to complete gas transmission lines into New England or other new areas which had expected to have natural gas for the coming winter.

Indeed, some of the highest priority gas lines—to expand supplies in some industrial areas—may not be completed in time.

Chapman Warns of Gas Shortage

Interior Secretary Chapman has warned that rationing cannot be avoided in the months to come unless larger amounts of steel are made available for oil and gas.

Barring the miracle of an abnormally warm winter, many steel mills and defense plants will be cut off from natural gas during cold weather next winter and tens of thousands of gas-heated homes will be cold, Chapman said in protesting against the 30% slash in the steel allocation for oil and gas by Defense Production Administration.

Gas shortages will throw a greater burden on oil, Chapman pointed out.

Seek Steel for Coal Stokers

More materials for coal stokers was discussed at a recent meeting here with the Stoker Manufacturers Advisory Committee. One coal agency official said demands for coal-burning equipment could be expected to increase due, he said, to the prospect of limitations on oil and gas equipment.

Price Factor to be Discussed

With all the shortage talk emanating from PAD and elsewhere in Interior Department, it was not surprising when O. D. Judd of Office of Price Stabilization's petroleum branch, suggested a conference on the function of price in the supply situation.

Judd plans to ask PAD whether price action or allocations, or both, should be used to provide additional supplies of oil. He wants to set up machinery now to meet "spot shortages" when and if they occur.

One idea for discussion is an increase in ceiling prices on distillate fuel oil with a cut in gasoline ceilings to encourage higher yields of distillate.

Tanker Rates Studied by OPS

Another angle that Judd wants to explore with PAD is some sort of program to compensate for "excess transportation costs" in event that supplies have to be brought in by substitute high-cost means as in World War II.

OPS has announced that a study is being made of "ceilings" on domestic tanker rates to see whether they should be rolled back. Meanwhile, as a step to relieve the "squeeze" on East Coast marketers, residual price ceilings were raised 17¢ to 31¢ per barrel.

Fuels Policy Comes Up Again

The Senate Interior Committee plans to resume its hearings, July 9 and 10, in the investigation to develop a national policy on fuels for recommendation to Congress.

PAD and other agencies in the Interior Department were among those invited to submit their ideas.

During the roundtable discussions of last March, staged by Senator O'Mahoney of Wyoming, chairman, the coal people made it clear that they hoped this investigation would result in some sort of "end use" controls on oil and gas to promote greater consumption of coal.

Judge Slaps Coal-Rail Bloc

Opposition of coal operators and coal and railroad unions to a new gas line to the Oak Ridge Atomic Energy Plant was criticized by Circuit Judge Clark here in his opinion upholding denial of their intervention plea.

No one, said the judge, has "a vested right to force consumers to retain dependence on a fuel or a form of transportation in which they have lost confidence."

Commenting on the plea that coal's economic interests would be adversely affected by the competition of another fuel, Judge Clark said:

"If they lose business, it is largely because of their own antics in creating frequent crises, by way of strikes or threats of strikes, which leave the users at the mercy of their whims."

LP-Gas Pipeline to be Built

Expansion of the Phillips Petroleum Co. products pipeline, from Borger, Texas, to East Chicago, to relieve the present shortage of propane in the Great Lakes Area has been announced.

It will expand capacity by 30,000 B/D. With PAD granting priorities on pipe, completion is expected in time to meet next winter's peak load.

Meanwhile, summer surpluses of propane will be stored underground along the route of the projected line.

The privately-financed synthetic fuels program, costing about $300,000,000, will include LP-Gas among its products, according to the tentative proposal filed with Interior Dept.

Announcement of this project, which is to be financed by a group of banks and insurance companies—if the government will enter into a 10-year purchase contract for the output—is expected soon.

Diesel Tax Provision Changed

Final wording of the new tax bill, as passed by the House, puts responsibility for the highway diesel fuel tax on filling stations or truck operators. Heating oil consumers and distributors would not be involved in any tax refund system.

Complain About Fuel Oil Supply

Several congressional committees have received complaints from independent fuel oil marketers that they are having difficulty getting their full requirements from the companies that served them last year—unless they agree to sell under the supplier's brand. So far, the committees have done nothing but promise to investigate.

Similar complaints are being studied by the Department of Justice.

Meanwhile, there are growing demands from some marketing groups that the PAD set up the machinery, at least, for allocating available fuel oil supplies equitably among all types of marketers. PAD officials have shown no enthusiasm for the idea.

Massachusetts Modern

Schultz of North Scituate finds his own Business the best investment channel

by
Robert Gray

WHEN A FUELOIL and oilburner man has some extra money, some profits to invest, he can go at it in a number of ways. There's the stock market, Government bonds, savings banks, real estate speculation or a host of other outlets. Some business men with idle money think it is better to study their own operations in a search for ways that they can invest more right in the shop or office . . . invest more money to save costs.

That is the philosophy of W. R. Schultz, oilheating man of North Scituate, Mass. His town is in a very old section of America, just a stone's throw up the shore from Plymouth Rock. The Scituate area was settled within a matter of weeks after the first landing, and in that setting of antiquity the business of Schultz and family is as modern with labor saving—cost saving facilities as any large company in the industry.

Schultz came into oilheating by the appliance route. In the first world war he was a radio operator for the Navy. Back in North Scituate, because of his Marconi experience, he got the job of station agent for the railroad. Then people started building experimental radios for their homes. Schultz tried it and sold them one at a time as they were built.

By 1924 he left the railroad and opened a full-fledged radio store. Two years later he added oilburners to the appliance line in the radio store. His most important decision, however, was in 1927 when he was able to visualize the future of complete oilheating responsibility and he started in the fuel-oil business to supply fuel for the burners he had been selling. Since then the general appliance business has ebbed and flowed, but been of little significance to Schultz.

Through the years following 1927, actually 24 years up to now, the company has built in this small village and its surrounding area a fueloil volume of about two and a half million gallons annually and a shop activity that handles around 200 new installations a year.

The Schultz business is very much a family affair. Three sons, a daughter and a son-in-law are in it, and they occupy most of the key spots. Son Charles does most of the selling of burners and heating equipment; William heads the service department; David drives the transport truck; son-in-law Harry Daniels heads the installation department, and his wife, daughter of Schultz, is the one-girl office force.

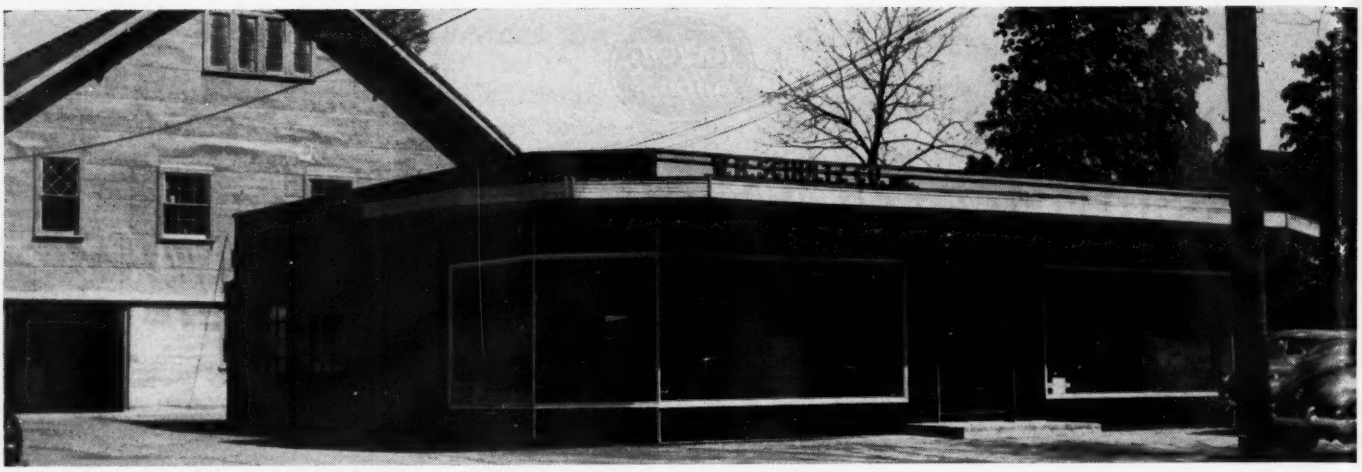
The fact that all of the office work for an operation of this size can be done by one person is a disclosure of Schultz' pleasure in buying work-saving gadgets. The office is a Burroughs salesman's dream. Everything is mechanical . . . machine bookkeeping, automatic mailer, addressing machine, post card printer, even the cash register carries every in-or-out transaction if cash or checks are involved.

There's a fortune invested in these office facilities, but that is Schultz' way; invest to save in your own business. Note that this one girl answers all the phones, does the stenographic work and all the bookkeeping. Some months as high as 1,400 statements must go out, and they are always out on the afternoon of the first and they include every delivery right up to the end of the last day of the month.

Of course there is a separate office out in the garage and near the loading racks for a man who takes care of degree-days and dispatching. After some careful studies he has found that it pays to keep average drops down a little and get shorter driving mileage. His average last season was 178 gallons per drop.

The company delivers oil within a 20 mile radius; customers are not too well concentrated. This large territory is divided into zones, each identified by colored tabs on the customer cards. If the degree-day system shows that two or three houses in a zone are due that day for a full drop, there is little point in sending a truck that distance for just 600 gallons to be delivered. So, looking ahead at the same color tabs further down the degree-day index,

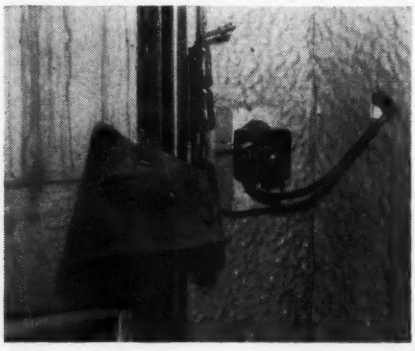
Family affair W. R. Schultz, his son Charles who heads selling, and his daughter, Mrs. Harry Daniels, who runs the office.



the dispatcher makes up his full load, and some drops are considerably below the desired maximum size. Thus, it's a route system, but controlled by the customers in each area with the highest burning rates . . . or the lowest "K" factors.

Schultz has 100,000 gallons storage capacity buried behind his truck garage. His oil comes from a tidewater terminal only 10 miles away, but he still finds it cheaper to bring it to his place and reload it. Of course he does operate one truck right out of the supplier's terminal to serve the accounts up in the terminal neighborhood.

To bring the oil from the terminal to his own bulk plant, Schultz has his own transport. He had a chance to buy a used tank trailer in good condition. He matched it up to a new tractor and his whole cost was only $7,500. He repaid that cost in just over one season through savings.



Door switch *cuts the burner.*

All told, the company has six fueloil trucks with five drivers . . . one truck is always in reserve. That's another investment to save money in operating expense. All of the trucks are Internationals. After having his maintenance work done on the outside for years, Schultz had a chance to hire a man from the International shop and now he does all of the truck work at the company garage . . . even to painting.

The garage was originally a small theater. Schultz recognized its desirability . . . a huge room without any posts. It was on a slope, suitable for two-level entrance. He cut away some of the ground and rocks from below and made what is actually another story below the main garage floor. This is 10 feet high with reinforced concrete walls, and overhead the garage floor is 10 inch concrete with radiant heating pipes throwing heat both up and down.

A novelty in the big garage is the door. It rolls overhead to open, motorized. But it's a very large door and sometimes the boys don't close it right away. The thermostat starts the oilburner. To prevent this, a switch has been rigged to work with the door. When the big door is open the oilburner has been automatically cut off, and when the door closes it is switched back to thermostat operation.

The lower story of this garage building houses a sheet metal shop, a pipe shop for wet heat work, store rooms, a small garage for service trucks, and the heating plant. In the boiler room it was a surprise to see a diesel-electric generator.

Wtih all the motors in the shops, in addition to lighting, electric bills were running from $100 to $120 a month. Schultz decided to make another investment. Hunting around the machinery salesrooms, he located a 10 Kw GM diesel generator, second hand. He bought it cheap, brought it home, rebuilt it, installed it with the necessary control panels and the like . . . all for $1,500 in top running order.

It runs on regular No. 2 fueloil, uses 2½ to 3 gallons a day, or in other words costs $10 a month for fuel. It is water-cooled and the hot water is piped into the building heating system, so on mild days it actually heats the garage. Then the exhaust is passed through a heat exchanger, and this heat passes through the wall in a duct to help warm the sheet metal shop. The office lighting is still on city current, but that's a small expense.

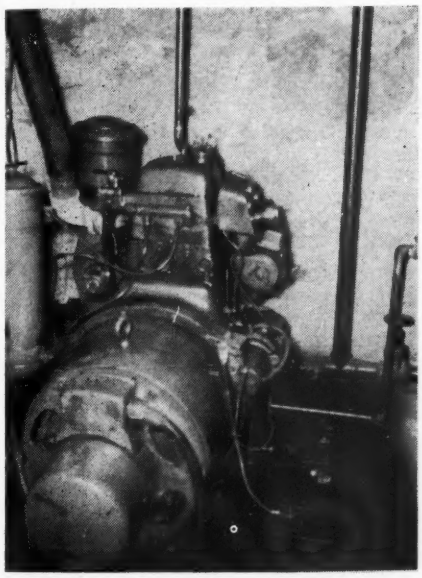
All of the Schultz employees work the year round. Three of the truck drivers spend the summer cleaning boilers. They do this work in the same general neighborhoods where they supply oil, so they keep better acquainted with their customer friends. The other truck drivers go on with oil deliveries or help the installation crews.

The company has three full time service men and two general installation men, one of them a sheet metal specialist and the other a steam fitter. Nearly all customers are on service contracts (at least 90%). This costs $10 a year and includes annual clean-up and tune-up plus emergency calls, but not free parts. Parts requirements are kept small when most of the jobs are carefully worked over every year. The annual tune-up is a real job, practically a renovation, but Schultz still finds that his annual charge keeps the department in the black.

This service charge may be added to the fueloil budget plan if the customer wishes. This budget plan is the conventional type, with the estimated year's oil cost divided into ten pay-

ments starting in June, ending in March. If the burner service contract is included, that only adds a dollar a month. Schultz sends the budget plan customers a book with 10 coupons, each showing the amount and date due, and these coupons come in with the checks.

Schultz does not use a fueloil contract in the conventional sense. Instead he sends a letter with a return postcard each spring. The postcard simply expresses in eight words the customers' intention of getting oil from the company. It has a much nicer appeal than the typical long legal verbiage that we so often inflict on our customer friends. There ought to be a law against legal



Diesel *generator saves 90%.*

looking oil contracts, because no one has ever yet been bound by one anyway. How much more effective to have it say simply, "Yes, I expect to continue getting my oil from you through next season," or words to that effect.

Getting back to the real theme of this story, which is buying equipment to save time and money, Schultz has another unique facility. It's a wire recorder. In an important discussion with a customer or prospect he runs it inside his desk, with the pick-up on the desk top. Afterward he studies the conversation, when he's free to think out the next move. That application of recorders isn't too unusual, but Schultz goes farther. He uses it for buying supplies.

One fetish in the organization is that it must never run out of anything that might be needed. A pipe fitting worth a quarter might cost five dollars in time and trouble if it's missing when required. With his long experience in heating, Schultz can walk through his stockroom and look at bin after bin and know whether he has enough of each item to be safe for another month.

In the center of the stockroom on a table is the wire recorder. Looking into bin after bin, he calls out anything that is needed with the description and quantity. When he's through a salesman from the supply house plays the wire back and writes his order. Thus the whole job of maintaining the right inventory takes an hour or two a month of Schultz' time.

In selling oilheating equipment, son Charles or Schultz get all the orders. Out of an average of 200 sales a year, all G-E, 150 will be complete heating plants, mostly forced hot water or forced air. Some of these are in new homes, but more of them go into quite old homes in the area . . . homes that through generations have gone from one to another type of makeshift heating.

With so many family members in the business, Schultz is now finding time for a little leisure. For three winters he has gone to Arizona for about six weeks.

A 25-year-old burner and oil business in a small community has great stability; it has a high good-will value. Continue to treat the customers like neighbors, as a family business will always do, and you can reasonably expect to continue a moderate annual growth through at least another full generation. W. R. Schultz Co., Inc., is a resourceful, prosperous set-up.

Nickerson sees Narrowing of Gasoline, Oil Differentials

A. L. NICKERSON, director of domestic marketing, Socony-Vacuum Oil Co., Inc., was principal speaker at the banquet on June 13 which concluded the all-day meeting of the Independent Oil Men's Association of New England at the Hotel Statler, Boston.

In a talk on "The middle of the barrel comes of age," Mr. Nickerson traced the growth of the market demand for middle distillates and reviewed some of the problems and opportunities that it created. Speaking of the responsibilities of the refiner, he described him as charged with "converting crude oil into products of adequate quality and sufficient quantity to meet the market demand. He must also bear part of the burden of providing adequate storage for them although, in order to avoid putting an impossible burden on transportation in the winter, much of the between season storage should be located near the point of consumption."

The changing picture whereby refineries, once were designed exclusively to produce the maximum amount of gasoline all the time, was discussed in the light of recent marketing demand and trends which have caused "the distillate demand curve to turn sharply upward and it is expected to continue to rise at a rate somewhat above the rate for gasoline."

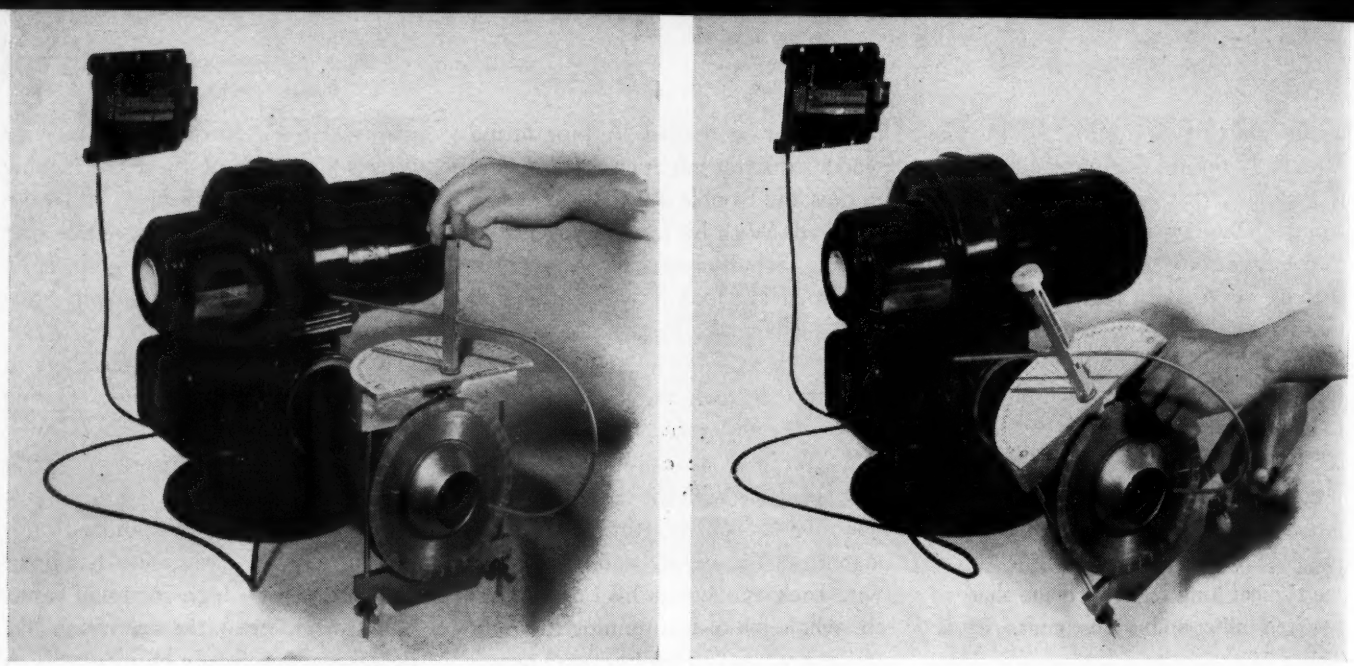
Recently, Mr. Nickerson continued, Socony-Vacuum undertook a complicated series of cost studies and arrived at these preliminary conclusions which indicate a refiner needs two things to assist him in meeting future distillate demand:

"First, a series of cost analyses to determine at what price differentials between No. 2 heating oil and gasoline it will pay him to shift his yields in the direction of greater middle distillate production; and

"Second, a narrowing in these existing differentials."

He explained that while normally the law of economics would result in a balanced price differential between fueloil and gasoline, "since December 18 when the OPS issued its initial request for a price freeze, prices for all classes of trade have been frozen at levels which, at least in the case of re-

(Please turn to page 124)



Air pattern Instrument . . . *horizontal and meridian testing.*

Now You can "see" the Air

Significant Development to improve combustion Mixtures

IT WAS SOMETHING over two years ago that Ralph Dennis, who heads the Oilheating Supplies Div. of Boston Machine Works Co. up at Lynn, Mass., made up his mind that they must develop some form of equipment to better understand what's happening to the air that comes out of the end of a gun tube.

Like other engineers in the industry Ralph has long recognized that perfect combustion of oil can only come through absolutely uniform mixing of the oil and air . . . in other words, when each minute droplet of oil is surrounded by enough free air to supply it with the proper amount of oxygen.

This goal of perfection has never been reached, naturally, and never will be, but as oilheating has grown through the years one engineer after another has made a contribution to the movement in that direction.

Dennis and his associates felt that the principal factor retarding improvement along this road was lack of exact knowledge of the air pattern. Of course, the company had a very direct reason for seeking this knowledge. It is in the business of manufacturing nozzles, along with a good many other products, and an exact measurement of any burner's air characteristics helps to match this to the right nozzle—the right spray angle, the right density, hollow or solid spray.

The first approach to "seeing" the air pattern was the more or less common one of using smoke bombs. Stray air currents distorted these to where they were useless for study. Then Dennis had a glass box made with everything sealed against outside air. This stopped the air distortion but he couldn't see through the smoke well enough to learn what he wanted.

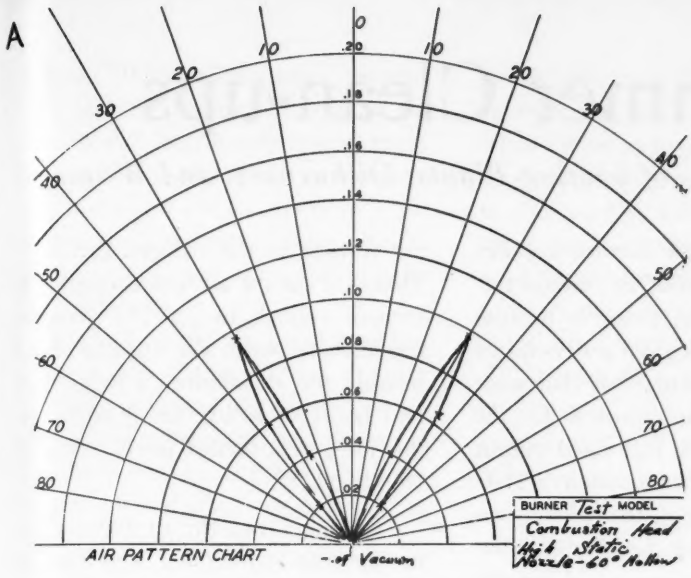
After quite a few months of cut-and-try with all sorts of ideas, his group finally developed a satisfactory method through the use of what they call the "Air Pattern Instrument."

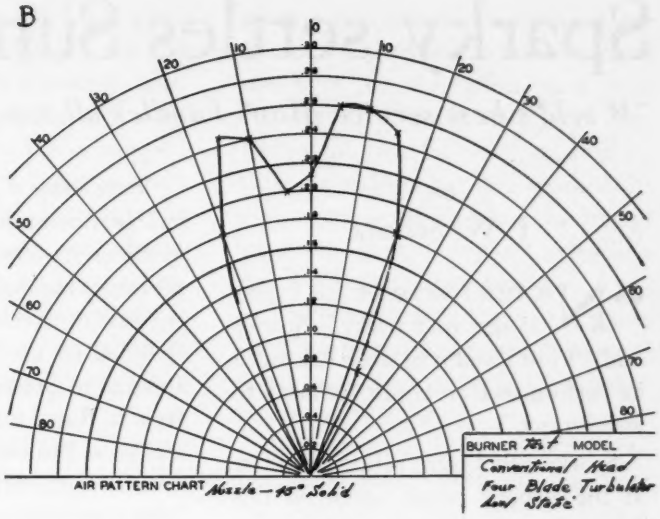
The photographs show the working of this instrument in good detail. Basically the method employed is to take samples of air velocity at various points in front of the gun tube. For this, a curved piece of brass tubing is connected through a hose to an air pressure gauge. This brass tube is moved to several positions and the air pressure is recorded from each spot.

Notice first the dial and pointer on top of the mounting. As the pointer is turned by its handle, that also moves the brass tube to the corresponding position. The air pressure at each position is then recorded on a chart designed for the purpose. In this first operation the air tube moves straight across the middle of the gun.

Now refer to Chart A. As the pointer on the scale was moved across from left to right the air pressure gauge first showed a pressure at the 40° line. This pressure was .02" and an X was made on the chart to correspond. The next observation was at 35° and the pressure was .06". The highest pressure of just under .10" was found at 30° on the scale and then the pressure rapidly dropped as the brass tube moved toward the center of the gun tube. At the center the pressure had dropped to a minus .04". Thus the chart shows a pronounced narrow air pattern in two legs of about equal balance. The only nozzle that can possibly do justice to this burner would be one with a hollow spray and 60° angle. If the oil shot straight out from the center of the nozzle it would miss the air altogether.

Just for contrast, chart B shows the result of the same horizontal air test on another burner that operates with much higher air pressures but concentrates all of its air output at the center. The dip in the curve is due to the obstruction of the nozzle itself. For this burner the only practical nozzle





would have a solid center spray and a 45° angle.

Now look at the second photograph of the burner. Here we want to find out how the air is distributed, not straight across the gun tube, but rather around a part of its area, in a circle. Notice that the whole instrument revolves around the tube and that there is another scale on the front facing the operator. The brass tube that receives the air is first set in a fixed position on the original white scale on the top and then as the whole instrument is revolved around the gun tube observations are made at any desirable points on the black scale.

The recording is done on meridian charts. Notice Chart C. Here we had the Combustion Head burner that showed us in Chart A its hollow cone air pattern. So to run the later meridian test the pointer on the white scale was set at 30° because that is where we found the highest air pressure. Then as the instrument was revolved the readings from the black scale were marked onto the chart at each 10° of turning. The curve on Chart C shows that the pressure at that original angle of setting was almost uniform all around the tube.

Chart D shows the same kind of test on the conventional head burner. Here we used only a 15° setting on the white scale on the top of the instrument because we had seen from Chart B that this was about the high point on each side. The Chart D curve found pressures as low as .21" and as high as .27", actually about a 25% varia-

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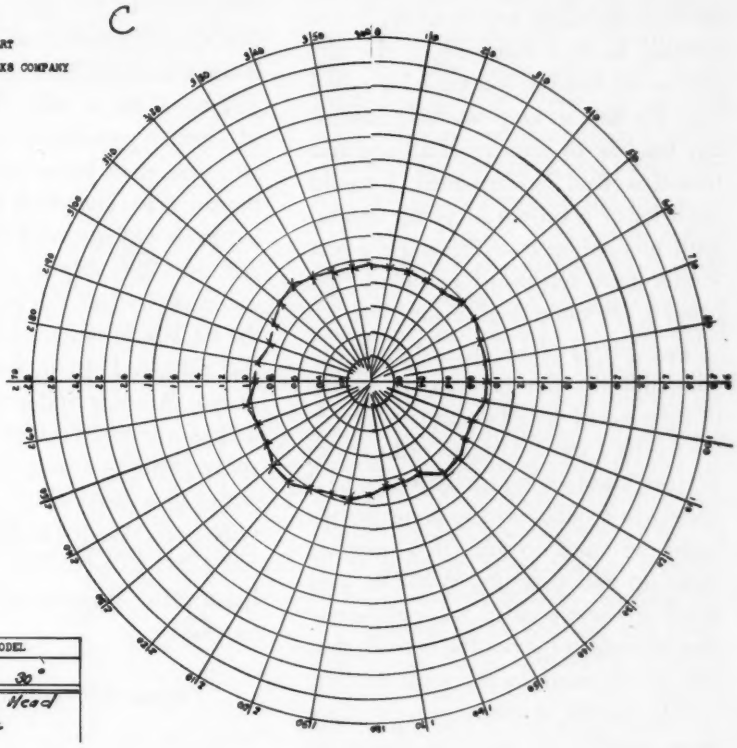
C

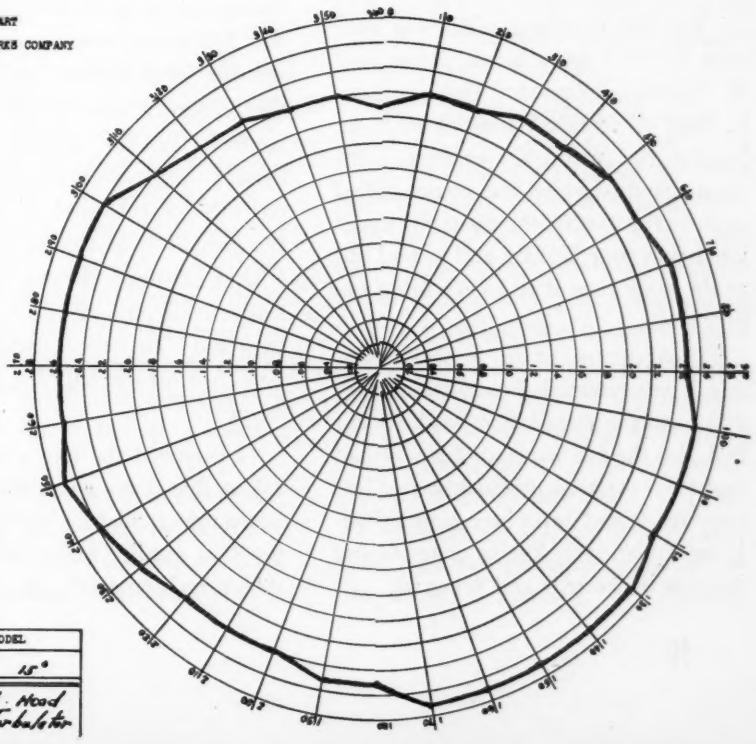
AIR PATTERN CHART
BOSTON MACHINE WORKS COMPANY
LYNN MASS.



BURNER Test MODEL
Angle Setting of Instrument Tube 30°
Combustion Head
High Static

D

AIR PATTERN CHART
BOSTON MACHINE WORKS COMPANY
LYNN MASS.



BURNER Test MODEL
Angle Setting of Instrument Tube 15°
Conventional Head
Four Blade Turbulator

Sparky settles Summer Clean-ups

"World's best service Man" handles all types of heating Plants, Oilburners, and Women

by
J. W. Schulz

"NO, THIS FORCED-AIR JOB I mentioned isn't tricky," Sparky said, "I just loved it because I changed its performance from just ordinary to just perfect."

Sparky and I were eating breakfast at the airport, before seven on this June morning. I'd phoned him long distance the night before to say I was coming, so he'd meet me at the airport as he had the last time I'd called him. He had to keep working fast all day tending to summer clean-ups and tune-ups. But, he explained, I would get a lot of good out of going around with him seeing how the world's best service man settles all problems that come up at summer clean-up time.

Two plates of bacon and eggs and four cups of coffee gave Sparky plenty of time to tell me all about the forced-air job he'd changed from ordinary to perfect, and to wind up with how he'd gotten in trouble on the same job because he tried to give it a summer clean-up and tune-up. What he said fitted in neatly with his philosophy that nowadays it's not the burners that give us service men the most trouble, it's the people in the houses that give more trouble than anything. Those are his very words, and he uses them often.

"This job I made perfect was running for two years before I first saw it," Sparky explained. "Then, because he buys oil from my boss although he bought the warm-air heating plant from somebody else, the owner called us in to try to tune the plant for somewhat smoother heating and to find out at the same time if it wasn't using too much oil.

"I love going out on a job like this one. The equipment was swell in every way, and the installation work wasn't bad. But the big warm-air furnace had just been started up quickly and left running. It had never been tuned closely by a man who knows controls and burners backwards and forwards.

"First thing, I saw that the installer had provided a forced-air furnace tremendously oversize, probably because the owner has money and always wants the best of everything, but that some fool had set up the burner to fire the furnace to produce full rated output from it. Rated for a maximum of 250,000 gross Btu output, the furnace was fired 2.5 gph. After checking my company's oil delivery records, I cut the firing rate to 1.5 gph. Around here, that's firing plenty hard enough for a house that uses a little more than 2,000 gallons of oil a year. The CO_2 was 9% with a passable smoke test to start out, and went below 6% when I cut the fire size. Therefore I used insulating firebrick to reduce the firebox size and put a big step-in arrangement on the back wall of the box. That made the back wall much higher, so I made the side and front walls higher to match. After trying out five different nozzles of different spray angles and spray patterns, I rang up 13¼% CO_2 with a passable reading from my smoke tester, and decided to leave the job set for 12% CO_2 to play safe and get beautifully clean combustion at all times.

Recorder gets Results

"My on-off recorder, hooked to the burner for a week and tended every day, led me to tune the room thermostat for seven-minute 'on' periods for the oilburner, and to set the blower control for the nearly continuous blower operation I wanted. Finally I cut the gph rate to 1.25, finding that this would heat the house easily on coldest mornings because we were getting much higher efficiencies than I had expected. The stack temperature of 635° to start out had dropped to 390° by now.

"I balanced the job, if you want to call it that, two ways. First, I slowed down the circulating blower by changing to a smaller pulley wheel for the motor, to balance the air-flow through the furnace to the reduced gph rate. That is, I cut the air-flow through the furnace enough to get 170° bonnet temperature with the furnace fired steadily for 30 minutes. I judge that two hours of steady firing might on this job give a bonnet temperature of 200° or 225°.

"Second, I used the air-flow indicator we keep at the office, and tried to set for the same fpm from every supply register. First I aimed for 400 fpm. That proved much too high to try for on this job, simply because the entire heating system is way oversize, including the ducts and registers. I wound up with the supply registers giving in general about 250 fpm."

Sparky said that after his thorough work this installation provided heat as smooth as silk. A temperature recorder located near one of the supply registers proved that. The owner said he was enjoying even, comfortable heating for the first time since he switched his first heating plant from coal to oil, 25 years ago. Now, he said, on a cold day he sat close to a supply register just to test for smoothness of heating. Warm air blew out continuously, the circulating blower never stopping, and the temperature of this air gave no clue as to whether the oilburner was running or not. To top it off, the enthusiastic owner told Sparky, his oil bills would be half of what they used to be, because the oil truck was stopping half as often as it did before Sparky started psychoanalyzing the heating plant.

All they want is Perfection

"Like all oilburner owners, all they want in that house is perfection as far as heating goes," Sparky summed it up. "It just took me, Sparky, the world's No. 1 oilburner service man, to give them perfect heating."

"I do believe that if they hadn't met you they'd never have gotten around to that smooth-as-silk heating and that 50% cut in oil consumption," I ob-

served. "What with cutting the gph rate and the firebox size, tuning the burner with instruments several times, and balancing the air-flow two ways, you must have put in plenty of hours on the job. How many hours, all told, do you think you spent making this job perfect?"

Sparky said the work had gone fast because each change he had to make had been indicated in a matter of minutes by his instruments and recorders, and he'd worked fast in making the changes. It had taken him only half an hour, for example, to try out the five nozzles, five minutes at a time to cut the speed of the circulating blower, and an hour to re-build the firebox to suit him, once he'd gotten to the job the firebrick and refractory cement he'd needed. The boss had charged the owner about $50 for the work, and this had included material that cost the boss only about five dollars, so Sparky figured his time slips had totalled up about 12 hours of labor.

"But I stopped there an awful lot for five or ten minutes at a time to change the recorder charts daily and change an adjustment or two," Sparky explained. "For instance, I gave a screw in the thermostat a bit of a turn to get seven minute 'on' periods instead of 'on' periods maybe four minutes or ten minutes long.

"That, I think is what finally got me in trouble on the job. I told you I recently got in trouble on this job when I tried to give it a summer clean-up and tune-up. It seems now that the trouble started when I was stopping there every day, five minutes at a time tending to the recorder charts that had to be changed every day, and making quick adjustments to get good charts.

"The daughter, a willowy blonde in her twenties and very appealing to look at, got to thinking I was calling to see her.

"She fell in love with me," Sparky admitted with utter simplicity. "With more than 30 years' experience going in and out of homes servicing oilburners, I've had my minor episodes with users' wives and daughters. But never did one fall for me like this one did!"

"First thing *I knew, I was doing a roller-coaster act instead of the oilburner, the gorgeous blonde was just handing me the fourth or fifth drink along with a monkey wrench, and in walked her mother."*

He outlined how, when it came time to give this job its summer clean-up, he still had improvements for it on his mind, and had taken along for try-out what he called a burner blower wheel with a roller-coaster hub. Like hundreds of other curious service men, Sparky's always trying out things on his own. If this improvement made him enthusiastic, he said, his boss could try to sell it to the owner at a suitable price.

Going into the house this time for the clean-up and try-out of the coasting blower, he had walked in the back door without knocking, as he always does for the convenience of his pet customers, and had shouted out his usual statement to the effect that he'd brought a beautiful day with him. (Since the time he was bitten up by three chow dogs after he'd sneaked unnoticed into a user's house, he always shouts to let the occupants know he's going down their basement.)

This time, only the tall, blonde daughter was at home, which was unusual, and she had trailed him right down the basement.

"She started right in telling me how her father raved about me, and how she and her whole family thought I was wonderful. Now in my technical way I am wonderful," Sparky admitted, "But a person's got to be burner-minded to appreciate me that way. This gal is not burner-minded. The way she looked at me, I knew she had no technicalities on her mind.

"Well, though I always refuse strong drinks except on my last call of the day, it wasn't in my heart to turn down the Scotch-and-soda after she'd brought it to me, even though it was right after lunch. She'd mixed the drink about half-and-half. First thing I knew, I was doing a roller-coaster act instead of the oilburner, the gorgeous blonde was just handing me the fourth or fifth drink along with a monkey wrench, and in walked her mother. The gal was taken upstairs and given a what-for that I could hear even in the basement. Without even having gotten the motor off the burner although I'd started to take it off a dozen times, I wandered out and went home to bed. I'll never get up the courage to go back to that house!"

The right vacuum Cleaner

Sparky had finished his story while we were riding from the airport to the first clean-up job he wanted to show me. On the job we found his assistant finishing up cleaning the furnace flues using a sparkling new vacuum cleaner engineered throughout especially for this work. This, said Sparky, is something you can't do without if you want to clean soot out of flues without messing up modern basements.

"Smokepipe and chimney base clean, flue passages clean, and combustion chamber cleaned out," Sparky

chanted. "My man seals up air leaks with furnace cement, and I make combustion tests after I install a new nozzle, tend to the oil filter, and test all the controls. Any job we haven't tuned thoroughly in three years gets a new nozzle. If you want my opinion, most jobs fired lower than about 1.25 gph need new nozzles every year.

Use the oil Can

"On these forced-air jobs we've got to look at the air filters and clean or replace them if they're plugged. How to instruct all these owners on filter attention is a big problem that's not been solved up to now. There are plenty of oversize oil bills and plenty of service calls because of plugged air filters.

"Then we've got to take care of lubrication of the burner motor, the circulator-blower motor, and the blower shaft bearings," he said as he worked, "and tend to adjustment of the tension of the blower belt, if that's needed, and to making the job quiet in general, if about ten minutes' work will make it quieter. Dust off and polish up the equipment for a minute or two, so it looks as though we've worked on it, and we are through."

From there we went to a steam boiler which had been cleaned the day before by Sparky's helper. Commenting on the low pressure burner which fired this boiler, Sparky pointed out that nowadays a serviceman who works for an oil company should know how to service all types of burners.

"I've put in my time learning all about every single type of burner!" he exclaimed. "How many types are made today anyhow?"

"I figure seven types," I replied. "The pressure gun burner, the low pressure gun burner, the good old wall flame rotary type, the atomizing vertical rotary that you seem to see few of today, the vaporizing pot type, the horizontal rotary cup type, and the relatively new vaporizing burner type that gives a horizontal flame. Those are the automatic types, of course; burners for commercial and industrial jobs, made for manual or semi-automatic control, come in additional types."

"Just imagine," Sparky breathed, "I know everything about those seven types of burners! There's not a burner in use today that I can't service.

"On top of knowing all about all types of burners," he went on, "a service man's got to know all kinds of heating plants. First there's the modern, forced-air heating plant, used today to heat most new homes in my city. You know what I went through in tuning up the job I just described to you? Well, a service man can't get good performance out of a forced-air job, if he can't get through those steps of tune-up and two-way balancing.

"Now I'm finishing up the summer clean-up and tune-up of this steam heating plant you're looking at. As the world's best service man, I know this type of heating system needs special attention. The low-water cutout and automatic water feeder, good as these things are today, should be checked by a service man once a year.

"We've got a two-way interest in the boiler water. First, the water shouldn't be bad in a way that causes priming and foaming and high oil bills, not to mention water-hammer in the steam mains and radiators. Second, the boiler water needs treatment on many jobs to make certain it doesn't harm the boilers. Using my judgment, I'm having many users of steam boilers add chemicals to the boiler water once a year to make the water kind to the boiler metal.

"There's one dame *who keeps nagging me about the thermometer on her room thermostat. It reads a few degrees different than the wonderful, expensive thermometer her darling daughter sent her for Christmas."*

"This is a one-pipe steam job," he said as he finished his tune-up and combustion check-up, "and it needs proper vent-valves for the radiators and steam mains. A service man who works at minimizing the oil consumption of one-pipe steam plants had to know all about the need to install the best venting specialties, and all about adjusting radiator vent-valves properly for economical, balanced heating.

"On the two-pipe steam plants used in larger buildings usually, the burner service man's got to worry about steam traps for one thing, and about the use of orifices or adjustable radiator feed valves to balance the flow of steam to all the radiators with the oilburner giving on-off firing. By giving proper attention to these details, you can cut the fuel consumption of many plants 25% or more, especially if the plants are more than 15 years old and haven't been given a thorough check-up since they were installed. Talking about big heating systems, there's lots for a service man to learn about these modern heat control systems which take the outside temperature as a cue for regulating the heat of buildings using more than about 10,000 gallons of oil a year.

"Zoned heating controls and summer-winter hot water controls, not to mention all kinds of indirect water heaters and mixing valves, also need attention from well-informed service men."

Can't cover 'em all

I pointed out to Sparky he hadn't mentioned forced hot water systems, radiant heating plants, and unit heaters and their special controls. He said that these need special attention when the summer clean-up and tune-up is being made, and went on to rave enthusiastically about ceiling-hung furnaces. New in recent years, he said, these can do things that couldn't be done before they were produced. I agreed wholeheartedly.

Our big topic of conversation on the next job was flame mirrors. Sparky's helper had just finished cleaning this 75 hp high-pressure steam boiler when we arrived, for we had stopped for lunch and at three other jobs to give him time for this. The big pressure burner firing this boiler had double ignition, and Sparky and I both talked at the same time in praising that feature for this job.

"As the world's foremost service

(*Please turn to page* 120)

Know your Costs

Part III. Fallacies and dangers inherent in Price-cutting and Under-selling

by
H. H. Ragle*

THE SECOND ARTICLE of this series, as it appeared in the May issue, dealt briefly with the necessity of "Knowing your Costs" through the proper approach from a sales angle.

Briefly in review, several admonitions were set forth against permitting any failure to use the proper forethought in the normal functioning of the several phases of your business. For example:

"Know your Costs" in respect to

(1) The waste and futility of amateurish blah, blah advertising in its various forms, as contrasted with honest to goodness "Reason Why" copy—expertly prepared and timed to bring in the greatest possible returns.

(2) The unnecessary headaches and waste incident to the careless and relatively profitless sale of oilburning equipment, rather than from the angle of selling—at a profit—with the definite objective of creating a happily satisfied and permanent customer for fueloil.

(3) Blundering right into unending troubles through the use of high-pressure methods and selling to a hopelessly incompetent credit risk—merely for the sake of an equipment sale—if you can finally collect the money.

(4) The folly of taking on far flung, isolated accounts where the potential future business is so doubtful as to offer no hope of ever making a profit from fueloil. (Definite territorial limits should be established beyond which you will not accept business, until and/or unless new conditions justify a modification.)

(5) The very obvious fact that fueloil deliveries can be made to a 550 gallon tank for approximately half or less than the cost involved delivering to the nominal 275 gallon tank. (Applying more stress to the sale of the larger tanks will pay dividends—providing you don't get "too soft-hearted" and give all of the savings back to the customer.)

(6) The extravagant cost of serving fueloil to an installation improperly installed where speed and efficiency in delivery operation must have been entirely ignored.

(7) The certainty that, secretly or otherwise cutting the price will not increase the demand for oil by even so much as a single gallon. It very frequently results in "everybody getting mad" and trying to outdo each other in "meeting competition." The net result is some shifting of volume from one company to another and the outright loss of what otherwise could have been on the profit side.

Promiscuous price cutting out of a gross margin, which is already inadequate for a commensurate profit return, is little short of sheer lunacy. To say the least, it is one of the best possible guarantees toward a reduction in the dollars and cents to be paid in excess profits taxes, corporation taxes, etc., for "High Tax Harry" is not going to reduce taxes for you or anyone else.

Tax Relief through price Cutting

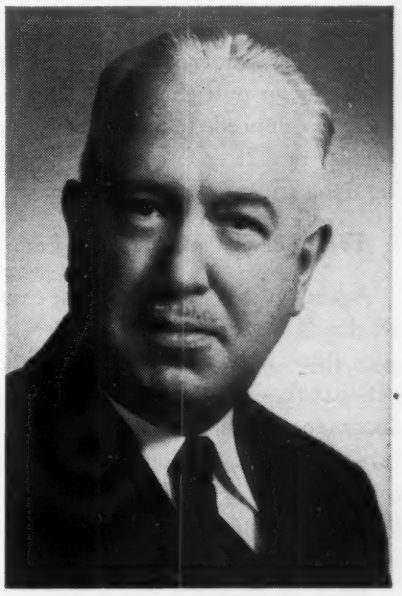
Dissipation of revenue through continued promiscuous price cutting can truly bring relief from taxes. It may also bring surcease from any responsibility for conduct of the business—for it will pass out of existence.

The erstwhile owners are then quite likely to become nominal salaried employees again—perhaps even with one of their former competitors who is still flourishing, because he was cost conscious in his operations.

Pause for a moment. You can name one or more specific cases in your community which exactly fit such a picture. Unfortunately, it is not the "pause that refreshes," for the laws of sound business are unrelenting. "Hell hath no fury like that brought on by a disregard for sound business practices."

Again, with "malice toward none" of the die-hard proponents of so-called "free burner service," a critical analysis of free burner service would surely result in the conclusion, "just another form of price cutting." It is basically indefensible.

In at least one large metropolitan community north of the Mason-Dixon line, free burner service is still widely and generally prevalent. It has been said that the very large operator who started the practice years ago, was "forced to give free burner service,"



H. H. Ragle

because his fueloil, at that time, was of such inferior quality, he had to have free service in order to keep the "home fires burning."

The original explanation has been repeated many times, even as late as within the past few weeks. Well, one flimsy excuse may be as good as another. Anyway, without knowing the "truth or falsity" of the explanation, the policy has resulted in the industry dissipating, through all these years, a very substantial portion of its gross revenue from all the fueloil sold in the community.

*Petroleum marketing consultant, 162 West 54th St., New York 19, N. Y.

At one time, some members of the industry tried to kid themselves along the line that they had added enough to the price of their fueloil over and above the normal tank wagon market to cover the cost of service. Had this been true, the customer was really paying for it indirectly; therefore, the claim, "free service" was little short of out-and-out misrepresentation.

The condition still exists, and the price structure of today is positively not even so much as one-tenth of a cent per gallon higher than if free service had never been instituted many years ago, and pursued to this very moment.

Why not "Know your Costs," and do your full share in waging a relentless campaign to abolish the practice of "such travesties" against sound business principles—if they exist in your own community?

There are a few unscrupulous operators in most every community where free service is practiced to any appreciable extent, who have developed more or less of an outright racket through sales of unneeded replacements of pumps, motors, controls, etc.—preying upon an unsuspecting customer.

Free Service often a Racket

Again, let it be stated that the overwhelming majority of the industry,—even those who honestly have the belief that free service is good policy,—decry the methods used in such a racket, and will, no doubt, gladly help to bring about a reformation, or hope to see such "vultures" out of the business.

There is no need of a Kefauver Committee to conduct an investigation into the fallacy of free service, or any of the other unsound principles employed. The industry knows too well. Let all of the individual units of the industry who will, resolve to "Know their Costs," and "do something about it" if excessive. It will then be amazing to witness the innumerable reformations of practices which will result.

The old adage, "An ounce of prevention, etc." might aptly be appropriated herein to illustrate another positive approach to the control of costs.

The art of selling is to the fueloil distributor's business its very life blood. In the final analysis, no business can prosper and grow without profitable selling.

By the same token, no business—no matter how long and how well or soundly established—can continue indefinitely to exist successfully through unprofitable selling.

Selling is universal

Thousands of volumes, and millions upon millions of words have been written on the broad subject of "Selling." The field of selling is almost as vast as the universe itself. Even long before Cleopatra, the siren of the Nile, who sold her charms so disastrously to those famous old Romans, down to the present day, the act of selling "something or other" has been practiced by mankind.

From the unfortunate pencil peddler on the sidewalk, to the highly specialized scientific sales engineer, who sells the intricate and unbelievably marvelous electronic brain to research organizations, the art of selling is practiced.

The T. B. M. (Tired Business Man) who furtively sneaks into a first-row seat of the Burlesque Theatre, or who may have had a few rounds of drinks with the boys, frequently find it expedient to try another job of selling when he returns to the bosom of his family in the "wee small hours."

More money is spent each year on cosmetics, than is spent on religious education, to help the fair ladies of the land sell their charms to the members of the opposite sex.

What a contrast to the homely modest female of the bird species, who are just ordinary looking gals, while the male struts down as the cock of the walk in his brilliant plumage, fancy feathers, and his great air of sophistry. Why?—to sell a homely little old hen on the idea of birdlike companionship, perhaps building a nest, and starting a family.

And still another form of salesmen (?), the much-discussed "five-per-centers" or "influence peddlers," lately perhaps in more disrepute than in their heyday prior to inquisitive congressional committees, who should charter committee hearing rooms by the year, with an option for a second year. (Do you know of anyone desiring a deep freeze? or a mink coat?)

Down with Capitalism?

Although the Potomac, and the adjacent land area through which it so briefly meanders, are virtually at sea-level, a lot of political hacks have been sent to "high places," and they too have practiced some high-pressure salesmanship during every election year, by frantically waving their arms, and shaking their fists at the capitalists and big business, who have been "persecuting the poor down-trodden underdog" through the elevation of wages, and good earnings for the hundreds of thousands of employee stockholders, to a point where the birthright of American citizenship has permitted the enjoyment of the highest standard of living ever created in this or any other country from the time of Adam and Eve and the famous fig leaf. Shame on those naughty capitalists who have done so much in establishing free enterprise and are still fighting to maintain it—despite all efforts to sell various crackpot socialistic schemes in what appears to be a nefarious and deep-seated plot to destroy our republic.

Some of these politically ambitious folks — ex-country squires, necktie salesmen, boot blacks, small-time lawyers and a few Missourians—have from time to time applied somewhat of a "reverse English" idea to the "sale of our brand of democracy" to the less fortunate peoples of other lands.

The political cocktail hostesses in lush surroundings, and liberally staffed by grinning butlers, have made it easy and comfortable for the visiting statesmen to practice in turn their art of selling themselves into a willingness to partake freely and unabashedly of our largess, with scarcely a thought of conveying something in return.

So, in reality, the term, selling, is really descriptive of a greatly variegated and multiple faceted gem of enterprise.

Perhaps because of the great breadth and variety in the field of "selling," the fueloil industry has been able to find so many examples of "selling without profit."

To "Know your Costs" is to dis-

parage and ban permanently at the first possible opportune moment, every conceivable form of unintelligent, profitless selling. The life of an individual enterprise, where too many so-called sales activities are conducted aimlessly and thoughtlessly over some of the detours of unnecessary price and service extremes, is in jeopardy.

By the way, have we ever stopped to think why the crazy cuckoo bird, originally of Europe, has been brought to this country in puppet form to pop out of the clock at periodic intervals to announce the time?

We too have Cuckoos

Not all of the cuckoo birds are confined to Europe. He may be one of your nearby competitors who pops out of the clock at the most annoying intervals to blast the serenity of the business scene by announcing in effect, "It is now time to cut the price or give something away as an inducement to gain a customer." Why? The answer is simple. The bird is crazy. He doesn't know any better. The door opens, he has nothing else to say, like the puppet of the clock, the easiest way for him to sell is cutting the price and promising a lot of things that cannot rightfully be delivered by the company, desiring to remain conscious and in good business health from a profit and loss viewpoint.

Selling through high-pressure methods, which would include thoughtless, short-sighted or just plain phony promises by the salesmen as to all the many things that would be done in respect to a new oilburner installation or in connection with the "huge fleet of powerful trucks just standing by," ready to make rush deliveries any time, day or night, Sundays or holidays, through rain, through snow, ad infinitum. Such glitter is certainly not all gold in the bank nor at Fort Knox. It is bitter evidence as to lack of knowledge on the subject of costs.

Other high-pressure methods, as sometimes used by shortsighted salesmen, with or without the knowledge of their company, may be found among the following:

(a) Planning the installation of equipment known to be inadequate for the job, through fear of losing a sale, except on a lower price.

(b) Knowingly underestimating the proper oil consumption, instead of honestly giving the prospective customer the full truth—fear again.

(c) Verbally or secretly promising a lot of unjustified extras for the sake of closing the sale.

But, why continue? for every business executive, every sales executive in the industry can easily recognize all of the above and many more.

When management really, honestly knows the cost, the real cost of high-pressure or phony selling activity, he will exercise every reasonable safeguard to prohibit the employment of such tactics.

The results of such "poor selling" may be readily interpreted, not only in needlessly excessive costs, but also in a loss of valuable good will and confidence in the company.

The basically sound old adage above quoted implies most definitely that one of the most important phases of cost control is to make certain that sales work must be maintained on a vigorous, red-blooded, honest, enthusiastic presentation of sound, though simple "reason why" facts so that the customer, from the very outset will know that the obligation of the company will be faithfully fulfilled.

Misleading Buyers

Not long ago, the author was in a certain office where he was told, in effect that a "foxy buyer" claimed that he had been offered one hundred gallons of oil free in return for signing a contract.

In this instance, both of the companies in question were friendly toward each other. For that reason, the competitor was frank and practical enough to merely pass on the gist of the accusation. A genuinely sincere attempt was made to have the prospective customer repeat, in the presence of the "accused," his "chiseling" story to the complaining company. The "foxy one," when challenged, suddenly developed a lapse of memory when he couldn't even recall the name of the "old woman" who had a cousin, whose uncle overheard some silly conversation in a tavern about someone who bought one-hundred gallons of oil, etc., blub, blub, "Please blow the foam off my beer." Even the "lying fox" in this case ran like a rat when cornered.

Yet, in the not too distant past, before fueloil men began to realize that their competitors were not all possessed with horns, tails, and monstrous fire forks, the story might have been believed. In a fit of anger, costs might have been forgotten and the "foxy" buyer might have been successful in "lying" some company out of better than $13.00 worth of oil in return for signing a little domestic contract.

The moral, from this little episode, might be, "It takes a more plausible story than the above to make friendly competitors believe everything they hear without taking the time and trouble to investigate."

When more and more of the individual units of the fueloil industry become sufficiently cost conscious, there will be fewer and fewer instances of dissipating revenues from the precious few pennies available to reward the industry for its outstandingly high position in serving the needs of the millions of homes dependent upon fueloil as nature's cleanest, finest, most easily controlled, and safest source of heating comfort.

The lunatic Fringe

No finer group of businessmen exist anywhere on earth than the typical oil men. But unfortunately, as in every line of business, there are some who either don't care or are unwilling to learn that the nominal margin of gross profit, as usually prevailing, is wholly insufficient to justify losing sight of the cost factors incident to serving all the reasonable needs of the consumer efficiently, intelligently, and at all times through honest representation. Recognition of this principle will contribute greatly to the stability of the enterprise and its permanency.

Only a few hours ago, prior to the time this narrative began to take form, a brief communication was received from the general sales manager of a very prominent and successful company in the heart of the fiercely competitive metropolitan area which, in substance, reads,

(*Please turn to page* 116)

Importance of clean Combustion

Part II. The four basic combustion zone Conditions that cause excessive Smoke

by

George Gardner*

LOCATING THOSE mechanical defects in adjustment or installation which are responsible for excessive smoke can be simplified to some degree by a consideration of the four basic smoke producing combustion zone conditions which can result from these defects. The combustion zone comprises that space within which vaporization and burning of the oil should be complete. The combustion zone of a pressure gun burner will be the space within the combustion chamber and in some cases a small volume above it.

These four basic combustion zone conditions which prevent clean, efficient combustion are:

1. Insufficient combustion air supplied to the flame to permit clean combustion at an acceptable combustion efficiency.

2. Non-uniform delivery of fuel and/or combustion air to the combustion zone.

3. Insufficient temperature in the combustion zone to permit proper vaporization and burning of the oil.

4. Insufficient flame turbulence for the grade of oil used. Stated in another way, this represents inadequate mixing of fuel and air during vaporization and burning.

These four combustion zone conditions will apply to all four types of oilburners (natural and mechanical draft vaporizing pot burners, rotary wall flame burners and pressure gun burners). A common-sense examination of the burner and installation with these four combustion zone conditions in mind will usually supply the answer. Some of the more common mechanical causes of excessive smoke-producing combustion zone conditions are illustrated in Figure 7.

Where the principal reason for smoky combustion is insufficient combustion air, the flame color will usually be relatively uniform, varying from a yellow to an orange color. The flame will usually be free of sparks or streaks. Flame height will commonly extend above the normal combustion zone and will be of varying and irregular height. Percent CO_2 will be high.

Where there are excessive air leaks in the furnace or boiler, it will be impossible to increase combustion air to the flame without at the same time decreasing the CO_2 below acceptable limits. Sources of air leakage can be located with a candle flame by observing those points at which the flame is pulled in by the furnace draft. All sources of air leakage should be sealed with a good grade of furnace cement. It is also good practice with the above conditions to check the firing rate to insure that it is within the burner rating and the blower rating as well. Firing at rates higher than the burner rating may make it impossible to in-

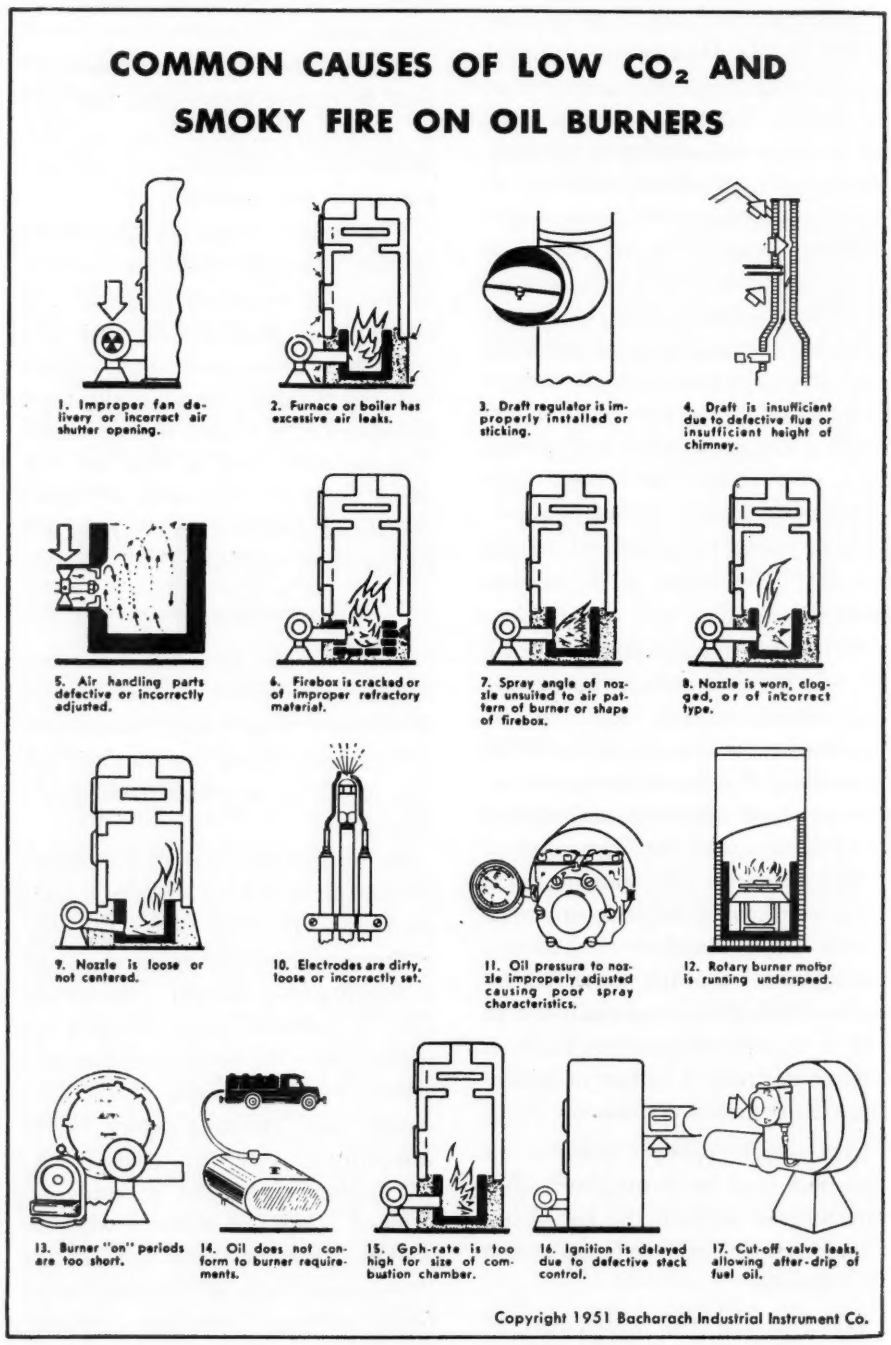

COMMON CAUSES OF LOW CO_2 AND SMOKY FIRE ON OIL BURNERS
1. Improper fan delivery or incorrect air shutter opening.
2. Furnace or boiler has excessive air leaks.
3. Draft regulator is improperly installed or sticking.
4. Draft is insufficient due to defective flue or insufficient height of chimney.
5. Air handling parts defective or incorrectly adjusted.
6. Firebox is cracked or of improper refractory material.
7. Spray angle of nozzle unsuited to air pattern of burner or shape of firebox.
8. Nozzle is worn, clogged, or of incorrect type.
9. Nozzle is loose or not centered.
10. Electrodes are dirty, loose or incorrectly set.
11. Oil pressure to nozzle improperly adjusted causing poor spray characteristics.
12. Rotary burner motor is running underspeed.
13. Burner "on" periods are too short.
14. Oil does not conform to burner requirements.
15. Gph-rate is too high for size of combustion chamber.
16. Ignition is delayed due to defective stack control.
17. Cut-off valve leaks, allowing after-drip of fuel oil.
Copyright 1951 Bacharach Industrial Instrument Co.

Fig. 7.

*Application service engineer, Bacharach Industrial Instrument Co.

troduce sufficient combustion air at the recommended draft with the blower supplied with the burner. Where combustion air is supplied only by natural draft as in certain vaporizing pot burners, it is particularly important not to overfire the unit.

As a matter of fact, with some equipment of this type it will be necessary to adjust the firing rate to a value 10% or 15% below manufacturer's rating before clean combustion can be obtained at the recommended overfire draft. The graduate and collector cups illustrated in Figure 8 can be conveniently used to check firing rate on vaporizing pot burners.

Causes of insufficient overfire Draft

Insufficient overfire draft resulting in insufficient combustion air for clean combustion may be due to furnace boiler flue passages being clogged with soot or to excessive baffling. These will be indicated when flue draft on the furnace side of the draft regulator is to manufacturer's specification but overfire draft is insufficient. Where neither draft value is to manufacturer's recommendation, check adjustment of barometric draft regulator and inspect regulators for proper operation. There should be no tendency for the draft regulator door to stick or bind. Finally, check flue draft between flue collar and regulator with barometric regulator door first held open and then held closed. Deficient or clogged chimney will be indicated by a very small difference in draft under these conditions.

If overfire draft is adequate, inspect blower and air handling parts. Open air shutter and if no improvement is observed, inspect blower. Corroded or clogged blower wheel or air opening may be reducing blower capacity. A loose blower-motor coupling will produce the same effect.

In some cases, inadequate venting to the outdoors will prevent outdoor air from replacing basement room air supplied for combustion. The result will be a negative pressure in the space from which combustion air is being supplied and a consequent reduction in combustion air. Such a condition can be conveniently checked with the type of draft gauge illustrated in Figure 9.

Set the gauge up outdoors and carry the sampling hose into the closed basement through a hole drilled in window frame or door and by running the hose under a door. Difference in basement and outdoor pressure can be shown by disconnecting the sampling hose at the instrument, setting the pointer to zero on the scale and then reconnecting the hose. Burner should operate for five or ten minutes with furnace room closed off as it normally is before this check is made.

The importance of the barometric regulator is worth some emphasis. Too many individuals assume that all regulators will do about the same job and buy regulators largely on a price basis. It is highly important that the regulator be capable of producing a reasonably constant overfire draft over a range of chimney draft conditions.

One convenient way of checking on the ability of a given regulator to do this is to connect the sampling tube of the draft gauge overfire and start the burner after it has been off for a sufficient period to allow the chimney to cool. As the chimney heats after the burner is turned on, observe the overfire draft. It should remain constant within a few hundredths of an inch of water.

Non-uniform air-fuel Distribution

Any factor which results in delivery of more fuel or air to one part of the flame and less to some other part will result in excessive smoke. As a rule, such a condition will be associated with a lop-sided or distorted flame shape and there may be sparks or streaks in the flame. Partially clogged nozzle, worn nozzle or poorly adjusted electrodes can distort the atomized fuel pattern and produce this effect. Burned or warped turbulator blades can distort the air pattern with the same effect.

Fueloil must be vaporized to a gas before it can burn and heat is required to do this. Further, fueloil does not burn instantly. As the temperature in the combustion zone decreases, the speed or rate of burning decreases. Thus, it is necessary to reach and maintain a certain minimum temperature in the combustion space to insure proper vaporization of the fuel and to make the fuel burn fast enough that combustion can be completed before the combustion products reach the cooler zone over the fire which will stop any further combustion.

Insufficient combustion zone temperature is usually characterized by a decided drop in smoke as combustion proceeds. With good operation, smoke should level off several minutes after combustion starts and difference between starting smoke and smoke 5 or 10 minutes after combustion starts should not be more than one or two smoke numbers on the Bacharach-Shell smoke scale.

Adjusting vaporizing Burners

Since vaporizing pot burners depend entirely on heat in the pot to vaporize the fueloil to a gas before burning, it is highly important to adjust the low fire or pilot firing rate to the manufacturer's recommendations. These recommendations have been established by the manufacturer to keep the pot as hot as possible during low fire or the pilot fire period of operation. For the same reason, it is desirable that overfire draft does not exceed the manufacturer's specifications since excessive draft or any other factor which will cause an excessive volume of combustion air will chill the pot and prolong the period

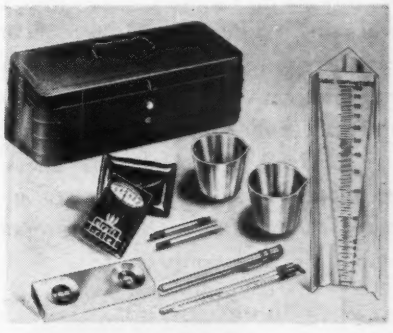


Fig. 8. *(Top) Adjusting kit for vaporizing pot burners.*

Fig. 9. *(Bottom) Draft gauge.*

for the pot to come to a proper operating temperature.

For pressure gun burners, it is necessary that the flame shape produced by the combination of nozzle type and air pattern be properly proportioned to the combustion chamber shape. Excessively underfiring a given combustion chamber will result in lower combustion zone temperatures. It is highly desirable that combustion chambers be constructed of light weight firebrick since less heat will be required to bring the inside surface of such a chamber to an efficient operating temperature. Effect of combustion chamber material on smoke is shown in Figure 10.

It is obvious that over twice as long a period is required for the hard firebrick to reach temperature required for smoke number 3 on the Bacharach-Shell smoke scale. It is also obvious that about 3½ minutes are necessary even with soft firebrick for combustion zone temperatures to increase to the point of permitting a smoke number 3. It should be noted that the comparison of hard and soft firebrick in this case was purposely made under firing conditions which resulted in too low a combustion zone temperature.

Most authorities agree that for pressure gun burners from 90 to 100 square inches of combustion chamber floor area are required for the first gallon per hour fired with 50 to 60 square inches provided for each additional gallon per hour. Underfiring a combustion chamber is one very common cause of inability to maintain or reach proper combustion zone temperature.

Length of firing Periods

Since an appreciable interval will elapse in most cases between the start of a firing period and the time when the combustion space reaches proper temperature, it is essential that firing periods shall not be of too short a duration. For pressure gun burners, most authorities agree that a given firing period should not be less than 5-minutes duration. For this reason, extremely close thermostat setting such as is desirable for continuous air circulation is not practical for oilburners. A setting of 2°F. thermostat differential will usually be satisfactory.

Clean combustion of fueloil is impossible without some flame turbulence. This turbulence is essential to properly mix the gasified fueloil and air before and during combustion. How much turbulence is required will largely depend on the grade of fuel used.

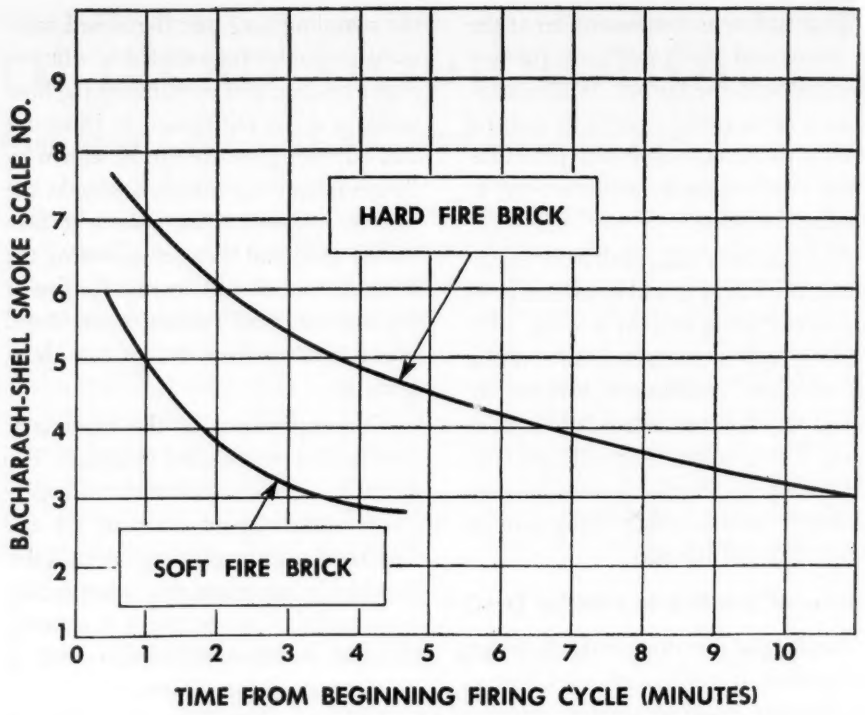


Fig. 10. *Effect of hard and soft firebrick on smoke in an installation fired with a high pressure gun burner.*

No. 1 fueloil can be burned satisfactorily in a vaporizing pot type burner which generally produces less flame turbulence than the pressure gun type. No. 2 fueloil requires more flame turbulence for proper combustion and is very difficult, and in most cases impossible, to burn with a clean flame in most vaporizing pot equipment. Catalytic cracked fueloils require greater flame turbulence for clean combustion than is necessary with straight run fueloils.

In a pressure gun burner, flame turbulence is achieved by causing the air to whirl as it leaves the gun tube. This is effected by a combination of an air turbulator and an air cone. Burned or warped turbulator blades can prevent sufficient flame turbulence for smoke-free combustion. Excessive underfiring may also cause insufficient flame turbulence since improper combustion air setting will produce insufficient air velocity from the gun tube. Improper positioning of turbulator to nozzle can also reduce flame turbulence and cause smoky combustion.

Flame turbulence in a vaporizing pot type burner is effected by introducing air through small holes in the pot. If these air inlets to the pot are clogged, combustion air is diverted to the flame over the pot where a minimum of flame turbulence will result.

Starting and after-fire Smoke

It is a rather common experience with pressure gun burners to find some oil discharging from the nozzle after the burner cuts off. Since the only combustion air in this case is supplied by natural draft this after-fire oil burns with an insufficient amount of combustion air and almost no flame turbulence. After-fire smoke can be a serious source of furnace sooting.

Air trapped between the pressure cut-off at the pump and the nozzle can produce this condition as well as a leaking pressure cut off. A loose nozzle can also cause after-fire smoke.

Use of a small solenoid type valve in the oil line to the nozzle and with electrical connection wired in parallel with the burner motor is one foolproof way of eliminating after-fire discharge of oil. It is a decided advantage to use a solenoid valve which has a delayed opening feature since this permits the blower to come up to operating speed

(*Please turn to page* 123)

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price is

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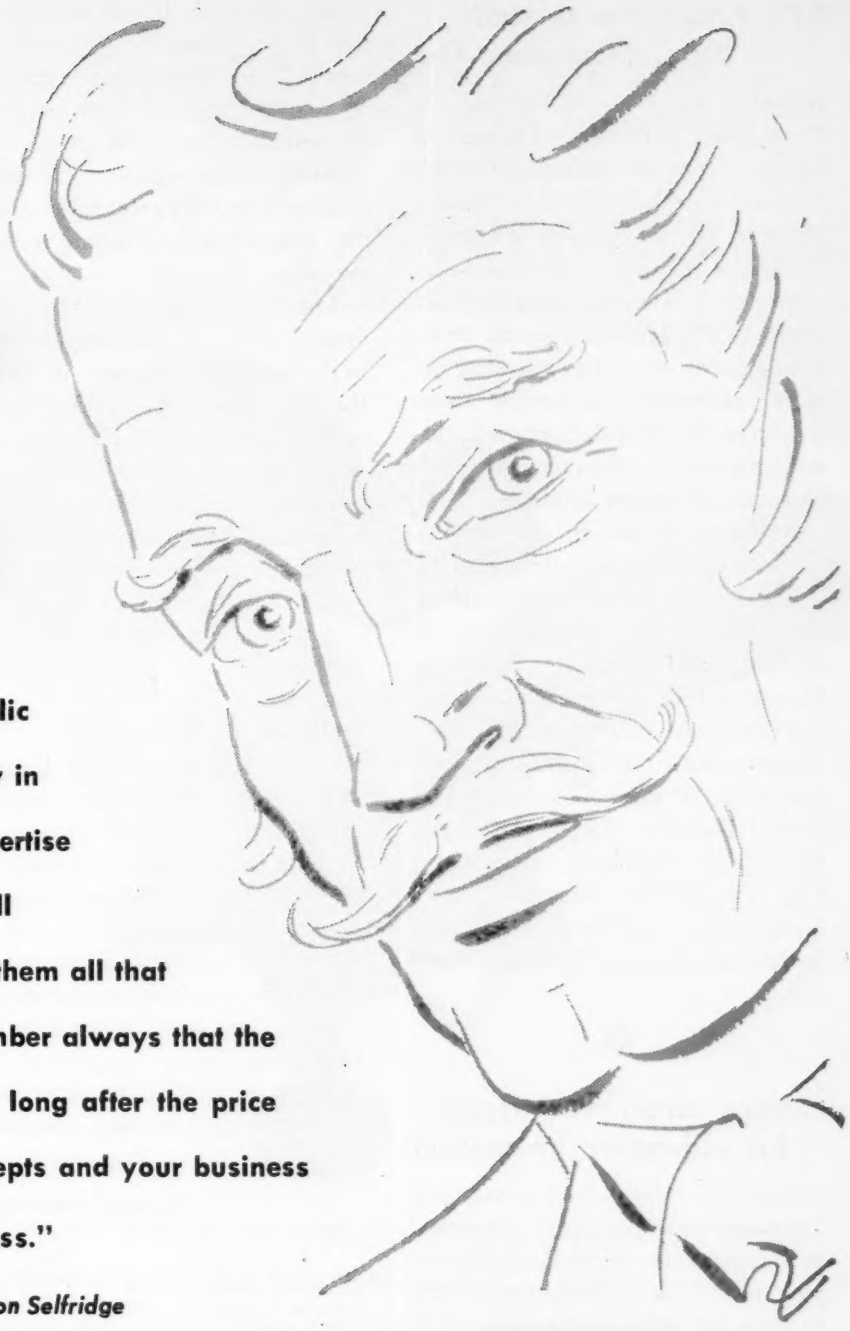

"Get the confidence of the public and you will have no difficulty in getting their patronage. So advertise your wares that customers shall buy with understanding. Give them all that can be given fairly; and remember always that the recollection of quality remains long after the price is forgotten. Follow these precepts and your business will prosper by a natural process."

H. Gordon Selfridge

the standard of the industry...

ABC OIL BURNERS

AUTOMATIC BURNER CORPORATION

1823 Carroll Avenue • Chicago 12, Illinois

fuel oil & oil heat

NPC Committee to study Equipment using Oil

APPOINTMENT of a Committee on Trends in Petroleum Consuming Equipment has been announced by the National Petroleum Council, Washington 6, D. C. Chairman Walter S. Hallanan selected the committee at the request of the Department of Interior, which said such a study would be of assistance to them by providing as much information as possible about trends in the manufacture, sale, installation and use of equipment which consumes petroleum products.

Albert J. McIntosh, Socony-Vacuum Oil Co., Inc., is chairman of the committee, the other seven members being Samuel Dunckel, Institute of Cooking and Heating Appliance Manufacturers; Robert Gray, editor, FUELOIL & OIL HEAT; Harry B. Hilts, Atlantic Coast Oil Conference, Inc.; Joseph E. Pogue, Chase National Bank; Theodore Sutter, Petroleum Equipment Suppliers Association; Fred Van Covern, American Petroleum Institute and Russel S. Williams, Individually Branded Petroleum Association.

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Getting employee Support for oilheating Promotion

WHEN THE COOPERATIVE advertising campaign for oilheating was launched in May by dealers of the Pacific Northwest, one of the recognized needs was to enlist the enthusiastic support of all individuals who make their living in the industry. Fred Griffin, of Griffin Fuel Co., Seattle, wrote the letter that follows to his own people. Because it could well be used by dealers anywhere in similar circumstances, it is copied in full: (a reprint of the first advertisement was enclosed).

Your job and your company depend on the permanent acceptance of oilheat by the home owner. Take the time to read the attached ad. It is the first of a series in a program developed to condition the fuel-buying public to think of oilheat as the best available type of heat to have. This ad ran in the *Post Intelligencer* on Sunday, May 20, and will run in the *Times* on Wednesday, May 23. It will run in other papers throughout the state of Washington. It will be followed by additional ads bringing out more points, as a continual long-range program. In addition to newspaper advertising, there will be billboards, radio, and direct mail advertising selling the same program.

The program is financed by a cooperative effort of everyone interested in the heating oil industry. In the end, the advertising money and effort will be completely wasted unless every individual in the industry in their daily contacts with those who use oilheat do those things that make oilheat the best available type of heat. This includes:

1. The best in installation.
2. Satisfactory 24-hour service.
3. Automatic, carefree delivery of the best available oils.
4. Courteous and complete follow-up of any breakdowns.
5. Making sure that the customer always has heat when he needs it.
6. In other words, Guaranteed Heating Satisfaction.

Oilheat is better heat if those in the oil industry see to it that the customer receives the best of olheat. This includes building the courteous personal relationship at the time the order is taken, by the driver at the time of delivery, and at all points of contact, such as credit and service problems that come up later.

Oilheat at the moment is so superior to other types of heat available locally that it is easy for those in the business

Central Heating tabulated by Census

TABULATIONS just released, based on information gathered during the 1950 Census, indicate that there are 42,520,000 occupied dwelling units in the country. Of this preliminary total, 39,626,000 are located in urban and nonfarm areas, 8,518,000 are in rural nonfarm sections and 5,894,000 in rural farm areas.

There are 20,870,000 units reported to have central heating systems, divided 9,736,000 with piped steam or hot water systems and 11,134,000 heated with warm air furnaces. Liquid fuel, or fueloil, heats a total of 4,678,000 dwellings, distributed geographically as follows: Northeast, 2,575,000; Middle West, 1,099,000; South, 623,000 and West, 381,000.

Listed in the table is information gathered on central heating systems and those that use liquid fuel, separated to show those located in urban, rural and farm areas. The figures are based upon data collected during the Census made in April 1950.

Central Heating in Occupied Dwelling Units

	Total	*Urban*	*Rural nonfarm*	*Rural farm*	*1940 total*
Occupied dwelling units	42,520,000	28,108,000	8,518,000	5,894,000	34,854,532
Central heating	20,870,000	17,181,000	2,702,000	986,000	14,346,835
Piped steam, hot water	9,736,000	8,734,000	818,000	183,000	7,427,754
Warm air furnace ..	11,134,000	8,447,000	1,884,000	804,000	6,919,081
Central heating (No. reporting fuel used) ..	20,724,000	17,050,000	2,688,000	986,000	14,152,074
Liquid fuel	4,678,000	3,796,000	761,000	122,000	*
NORTHEAST					
Occupied dwelling units	10,920,000	8,855,000	1,595,000	471,000	9,479,318
Central heating (No. reporting fuel used) ..	8,014,000	6,819,000	973,000	222,000	6,271,239
Liquid fuel	2,575,000	2,190,000	356,000	28,000	*
MIDWEST					
Occupied dwelling units	12,887,000	8,395,000	2,502,000	1,990,000	10,963,338
Central heating (No. reporting fuel used) ..	7,616,000	5,991,000	1,027,000	598,000	5,684,380
Liquid fuel	1,099,000	802,000	237,000	59,000	*
SOUTH					
Occupied dwelling units	12,795,000	6,634,000	3,248,000	2,914,000	10,728,204
Central heating (No. reporting fuel used) ..	2,683,000	2,203,000	404,000	76,000	1,121,741
Liquid fuel	623,000	511,000	112,000	..	*
WEST					
Occupied dwelling units	5,917,000	4,224,000	1,173,000	520,000	4,133,622
Central heating (No. reporting fuel used) ..	2,411,000	2,037,000	284,000	90,000	1,074,574
Liquid fuel	381,000	292,000	54,000	35,000	*

*Data not available.

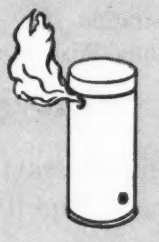
The TIN CAN TEST *PROVES* Air-Seel FUEL SAVINGS

Got a cigarette . . . and a tin can?
It's as easy as that to prove Air-Seel's fuel saving features to yourself . . . and your customers.

Just follow these 3 simple steps:

1 Using an empty tin can with 2 holes, placed as illustrated, put a lighted cigarette in lower hole. Now, smoke fills can . . . just as heat from burner fills the heating system.

2 Remove cigarette, cold air entering bottom hole drives smoke out top hole . . . in the same way cold air entering heating plant drives heat out the chimney.



3 Place thumb against lower hole. Smoke stays in can . . . as Air-Seel keeps heat in the heating system by preventing air from entering the burner.

When Air-Seel burner stops, its specially designed fan blades automatically fold flat against each other . . . sealing in heat . . . locking out heat-wasting cold air . . . unlike ordinary burners, which allow cold air to enter during "off" periods, thereby cooling off the entire system. Air-Seel saves heat . . . fuel . . . and valuable fuel dollars.

This is a "dollar-saving" story that's easy to tell . . . easy to sell . . . and Air-Seel means bigger profits for you, too.

Those Who Know Choose SILENT GLOW OIL BURNERS

To: THE SILENT GLOW OIL BURNER CORP
850 Windsor Street, Hartford 5, Connecticut
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Please send me information on Air-Seel.

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78LS1

to be lulled to sleep and to do a poor selling job. It is important that each of you keep in mind certain definite facts:

1. The Northwest is the last important oilheat market without natural gas or a pipe line being built into the territory.
2. There is a satisfactory supply of natural gas available to this territory from the Alberta fields.
3. Everyone agrees that we will have natural gas as a competitor at some time in the future. Only the time element is indefinite.
4. Natural gas is a very satisfactory heat and a strong competitor in any market that it reaches.
5. Oilheat is as satisfactory to the consuming public as natural gas, if properly sold. Whether the public wants natural gas or oilheat is strictly a selling job.
6. In *all* territories faced with natural gas where the selling job has been soundly conceived and aggressively sold by every individual in the industry well in advance of natural gas, oilheat survives and grows with natural gas.
7. In *every* territory where the oilheat industry has been lazy and does a poor selling job or waits too long, natural gas takes the majority of the market.

It is strictly up to you and every other individual in the industry to decide whether we will continue to be an aggressive, growing industry as natural gas arrives, or whether we will slowly go out of business because we have not properly sold the fuel-burning public and have failed to give the fuel-burning public the type of heat they can obtain from oilheat if it is properly handled. Read the ads, follow the program, and apply the ideas to your every-day contacts, no matter what those contacts are.

❖

Fuel Preference shown for fifteen Markets

A DIGEST of product use and brand preferences has been prepared, consolidating the results of surveys conducted by newspapers in 15 major marketing areas. Surveys in individual areas were based upon questionnaires completed by 35,000 representative families, with questions identically worded to provide comparability.

A section of the survey analyzed the fuels used for home heating in each market, based upon 1951 data for all cities except Birmingham, which used late 1950 information. The percentage of families using oil, gas, coal or coke for heating is shown in the following table:

	Oil	*Gas*	*Coal, Coke*
Milwaukee	27.7%	13.2%	59.9%
Indianapolis	33.3	6.0	52.4
St. Paul	56.4	6.6	37.0
Duluth-Superior	38.5	4.4	57.1
Columbus	2.2	55.5	42.3
Omaha	29.3	35.6	35.1
Birmingham	6.8	37.2	51.1
Washington	41.0	25.9	31.5
Salt Lake City	5.5	62.2	32.3
Fresno	4.4	92.7	..
Modesto	1.5	97.7	..
Sacramento	4.8	93.0	..
San Jose	1.8	96.9	1.9
Seattle	78.0	3.6	14.8
Spokane	53.0	.5	36.0

❖

New fueloil Subcommittee for Marketing Div., API

AT THE SPRING MEETING of the Marketing Division of the American Petroleum Institute in Cincinnati, May 29, fueloil got its first formal recognition in the organization through the appointment of a special Fueloil Subcommittee to the general Marketing Committee. The fueloil group is to study problems related to marketing and distribution of the product and to prepare for industry use various analyses and reports on the selected subjects. An agenda of topics to study was suggested at Cincinnati, subject to approval of the Institute's legal department. It is expected that the first project will be undertaken this summer and developed in time for presentation at Chicago in November.

So far the subcommittee has 13 elected members. It is planned to add others in the near future or as specific projects point the need for particular skills. The chairman is J. L. Minner of Shell, New York. The other 12 members are Joe Collins, Buffalo, N. Y., T. A. Crawford, Detroit, Horace Davenport, Salem, Mass., L. B. Fox, New York, Robert Gray, New York, Walter Holmgren, Minneapolis, Carl Jonswold, Chicago, Henry Schwartz, Brooklyn, John R. Sherwood, Baltimore, Douglas Smith, San Francisco, H. B. Van Cleve, New York, and M. N. Vining, Seattle.

❖

PAD given Authority over Construction

ORDER M-46B, issued by the National Production Authority to take effect on June 1, delegates to the Petroleum Administration for Defense supervision over construction in the oil and gas industries.

Basically the order permits material to be used in the petroleum and gas industries for:

Maintenance and repair purposes, as operating supplies or laboratory equipment or its installation and for any production operation, except multiunit residential building in excess or three stories and basement or a residential unit for single family occupancy where total floor space exceeds 2500 sq. ft.;

Construction operation in which the total cost of controlled materials to be used is less than $5,000, except construction involving a service station;

Production or construction operation, which as of May 3, 1951, has commenced or which has been authorized under NPA order M-4.

For other construction not covered in the foregoing provisions, application for authorization must be made on PAD form 26 to the Petroleum Administration for Defense, Interior Building, Washington 25, D. C.

❖

Imperial starting new Pipeline to Toronto

WORK IS EXPECTED to start at once on a $9,000,000 fuel pipeline that Imperial Oil Co. has indicated it is going to build from Sarnia to Toronto, Canada. The line, planned to be in operation by 1952, will consist of 125 miles of 12" pipe and 60 miles of 10" pipe and will carry gasoline, diesel, gas oils and fueloils from the Sarnia refinery to London, Hamilton and Toronto.

The line initially will handle about

Percoflash

TRADE MARK REGISTERED

The Low-Cost Flash Action Boiler
For the BEST In Home Heating!

Estimates Given
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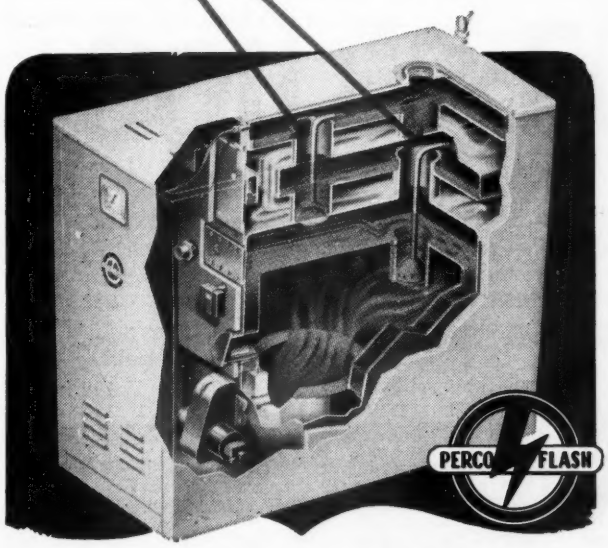
County Builders, Inc.
Industrial and Domestic Contracting
Custom Built Homes
40 South Browning Avenue
Tenafly, New Jersey
April 17, 1951
Westcott-Alexander, Inc.
42 Park Avenue
Madison, N. J.
Gentlemen:
I hesitated for many months and consulted with at least a dozen heating experts last year before finally making a decision to use your Percoflash Boiler in the hundreds of homes I am building in Bergen County, New Jersey. I am sending you this letter to inform you how happy and well satisfied I am with having selected your outstanding product.
My development, as you probably know, occupies many acres. No one has to tell you that Jersey winters can be mean, miserable and cold. A heating system which did the trick both from the standpoint of warmth and economy was the most essential part of my program. Your fine boiler has filled the bill in every respect. One thing in particular which intrigues my new home owners, including myself, is the abundance of hot water your system provides. To say that phase, together with its amazing economy, is the talk along the fence lines would be putting it mildly.
I have been engaged in the construction business for many years and have had occasion to use a considerable number of different heating systems. This happens to be my biggest and most successful project and your Percoflash has played a mighty important part. The Spring of the year is on hand and we are now completing plans for further developments. I say without hesitation that when it comes to selecting our heating plants we will continue to demand the best and the best is Percoflash--economically, from an appearance standpoint and for all-around performance.
Very Truly Yours,
William Berger
William Berger, sec'y.
WB:r

The PATENTED *Boiler With the* PERCOLATING PRINCIPLE!

Percoflash Boiler
Model No. 202



County Builders, like hundreds of other successful Builders and Developers, immediately recognized the outstanding benefits found only in the Patented Percoflash Heating Boiler. County Builders have installed hundreds of Percoflash Boiler-Burner Units (background picture a part of its Paramus, New Jersey, development) and testify to their marvelous pick up, true economy, splendid appearance, and abundance of year-around domestic hot water.

These outstanding features are passed along to the Home Owner at no additional cost over the ordinary conventional type heater.

WESTCOTT-ALEXANDER, INC.
MADISON, NEW JERSEY

PERCOFLASH

THE *finest* BOILER for OIL, GAS, or STOKER

a million gallons daily. The pipeline was decided upon because it will require less steel than would be needed for ships and tanks to transport the same amount of fuel.

U. S. Department of Labor Fueloil Prices (April)

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken April 15 (cents per gallon):

	Range	No. 1	No. 2	No. 3
Boston	14.73	14.57	12.50	..
Manchester	15.30	14.80	13.20	..
Portland, Me.	14.40	14.40	12.40	..
[3] Buffalo	14.95	..	13.74	13.74
[1] New York	..	..	12.63	..
Philadelphia	..	13.43	12.20	..
[1] Chicago	14.91	14.48	13.63	13.61
[4] Detroit	..	14.73	13.70	..
Milwaukee	..	14.78	13.84	13.72
[1] Kansas City	..	12.83	11.83	11.73
Minneapolis	14.97	14.73	13.68	13.7[illegible]
[1] Balt more	..	13.36	12.44	..
[1] Wash., D. C.	..	13.84	12.85	..
Jacksonville	..	14.87	13.60	..
Norfolk	..	13.60	12.20	12.20
Richmond	..	14.00	12.60	..
[2] Savannah	..	16.55	13.97	..
[5] New Orleans	..	14.33	12.77	12.77
Portland, Ore.	..	14.34	12.10	6.90
[6] San Francisco	..	13.87	11.54	6.85
[4] Seattle	..	15.41	13.20	7.11

[1] Prices include 2 percent tax.
[2] Inspection tax of one cent per gallon included on kerosene only.
[3] Prices include 1 percent tax.
[4] Prices include 3 percent tax.
[5] Prices include 3 percent tax on all fuels except gas; prices for kerosene and fueloil No. 1 also include one cent per gallon State health tax, and 1/32 of one cent per gallon State inspection tax.
[6] Prices include 3.5 percent tax on all fuels except gas.

New Edition of Petroleum Facts and Figures issued

THE NINTH EDITION of Petroleum Facts and Figures is being distributed by the American Petroleum Institute. The book, an authoritative compendium of vital petroleum statistics, is the first new edition issued since 1947. It is more than twice the size of its predecessors and embraces historical data reaching back to the early days of oil.

Because it is so complete, it is no longer necessary to refer to other editions for early statistics or other data, as had been customary. In addition to the long-term series of tables on utilization, production, refining, marketing, transportation, prices and taxation, the Ninth Edition contains also a new series of tables on business, operating and allied statistics.

It is planned to issue annual supplements for the 1951 edition for the next five years, after which a complete new edition will be prepared.

Copies may be obtained by writing to the Department of Information, American Petroleum Institute, 50 West 50th St., New York 20, N. Y. Price: $2.50.

Rexford S. Blazer, president, Ashland Oil & Refining Co., Ashland, Ky., was guest of honor at a testimonial dinner tendered him on May 25 by the Petroleum Club of the Cleveland Chamber of Commerce. He was presented with a scroll in appreciation of his service to the club and the petroleum industry. M. A. Baur, district manager, Socony-Vacuum Oil Co. and club president, made the award.

Bruce A. Dean has been elected vice-president in charge of sales, Chase Brass & Copper Co., Waterbury 20, Conn. He formerly was sales manager of the Mengel Co., Louisville and had served General Electric for many years in sales and management capacities. Sherman H. Perry is continuing as vice-president until his retirement at the end of July.

Trucks operated by bulk Stations in 1948

FROM DATA COLLECTED in the 1948 Census of Business it has been determined that petroleum bulk stations and distributing terminals in the United States operated 73,444 trucks, 8,761 truck-tractors and 9,066 trailers in December 1948. The count was limited to vehicles, owned or leased, that were operated by petroleum bulk stations and distributing terminals and excluded contract and common carriers.

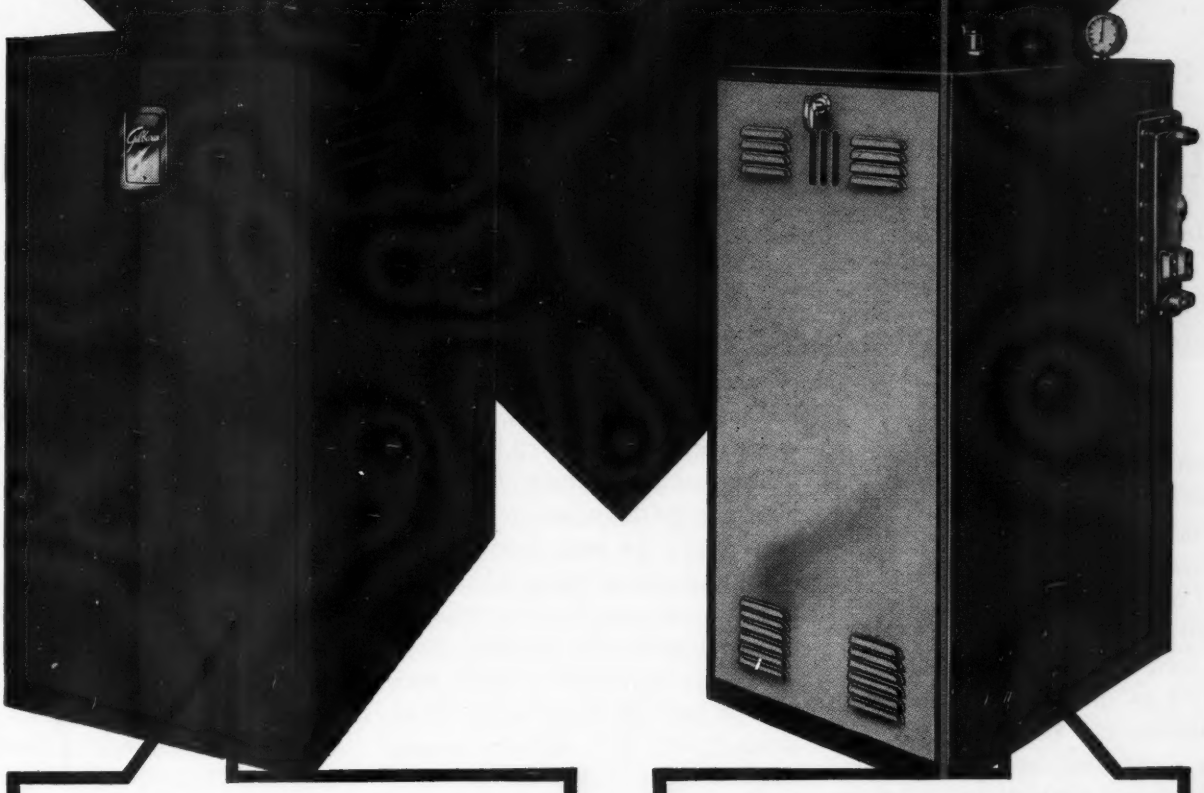
The 73,444 trucks operated were classified: Under 1½ tons, 13,618; 1½ tons, 36,009; over 1½ tons but under 5 tons, 18,357; 5 tons and over, 5,460. More than 87%, or 20,882 of the 23,817 trucks with manufacturers' rated capacity of over 1½ tons, had tank bodies.

Ten states accounted for the largest number of trucks operated, totalling 47% of the aggregate: Texas, California, New York, Illinois, Iowa, Pennsylvania, Ohio, Wisconsin, Michigan and Minnesota, in the order named.

The following table shows a breakdown for trucks operated by establishments of this kind, including totals for the various state groups:

	Number of Trucks									Number of Truck-Tractors					Total number of semi-trailers and trailers
				Over 1½ tons, Under 5 tons			5 tons and over 6						Over 1½, under 5 tons	5 tons and over	
	Total	Under 1½ tons	1½ tons	Total	Tank Bodies	Other	Total	Tank Bodies	Other	Total	Under 1½ tons	1½ tons			
United States	73,444	13,618	36,009	18,357	16,003	2,324	5,460	4,849	611	8,761	96	836	4,153	3,676	9,066
New England	3,356	655	659	1,002	846	156	1,040	937	103	626	6	16	96	508	685
Middle Atlantic	7,909	1,396	1,552	2,506	2,104	402	2,455	2,223	232	1,483	2	76	423	982	1,476
East North Central	14,546	2,332	7,922	3,608	3,034	574	684	585	99	1,880	19	199	793	869	1,989
West North Central	12,667	1,820	8,639	2,060	1,879	181	148	109	39	909	12	82	618	199	917
South Atlantic	9,440	1,978	4,443	2,652	2,381	271	367	309	58	1,290	21	165	748	356	1,272
East South Central	4,357	912	2,406	970	893	77	69	59	10	480	4	66	271	139	470
West South Central	8,856	2,176	4,795	1,765	1,574	191	120	87	33	1,006	9	127	663	207	1,031
Mountain	4,344	908	2,493	861	789	72	82	79	3	285	5	40	198	42	280
Pacific	7,969	1,441	3,100	2,933	2,533	400	495	461	34	800	18	65	343	374	946

TURN THE HEAT ON SALES...



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High-efficiency cast iron boiler-burner units

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FEATURE fast-selling, fuel-saving CAST IRON and STEEL BOILER-BURNER UNITS

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Fuel Oil and Oil Heat

COMMERCIAL & INDUSTRIAL oilburning

Introduction to industrial Oilburning

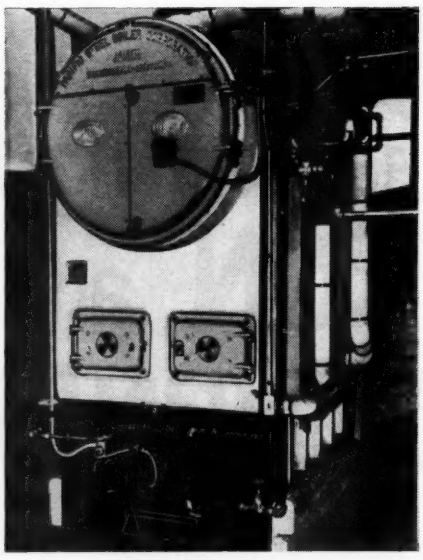
A glossary of Terms and Types . . . first of a Series

by
Kalman Steiner*

IF THE TERM domestic oil burner means burners used for heating residences, then the term industrial oil burner should apply to all others. The actual distinction between the two is not so simple; many burners of the types used in domestic heating find application also in heating of other kinds of buildings that lie within their capacity range, and also in firing small high pressure boilers. Hence a definition of industrial burner cannot be based purely upon application. One might base the definition upon grade of oil being burned, and say that a burner handling heavier than No. 2 (now that No. 3 has been abolished from Bureau of Standards specifications) is an industrial type. But some gun type burners, of the medium air pressure type and capacity range up to 10 gph, burn heavier grades than No. 2. So there is no clean cut definition that will distinguish between domestic and industrial burners, either by application or by grade of oil. In general, however, an industrial burner is one that burns No. 4, 5 or 6 oil, in the capacity range beginning at about 10 gph, but some industrial burners are applied to light oil burning and in smaller capacities, and some domestic types are built in sizes up to 30 gph., for use with light oil.

Besides burners used in firing boilers, both low and high pressure, and warm air furnaces, there is a group designed for special process work, such as drying ovens, metallurgical furnaces, retorts, baking ovens, and a host of others. Such burners are clearly to be considered as industrial, regardless of capacity or grade of oil burned.

The most popular form of industrial burner is the horizontal rotary. This burner takes its name from its main shaft, to the firing end of which is attached a cup or atomizer surrounded by an air nozzle, the mounting being such as to project an oil flame horizontally forward from the cup. In addition to the three elements already mentioned, there must be: a means of supplying the primary or atomizing air that issues from the air nozzle (this



usually, but not always, being a turbine type fan attached to the shaft behind the cup and rotating with it); a means of driving the shaft and whatever is attached to it (this usually, but not always, being an electric motor mounted on the burner). The main shaft speed usually, but not always, is 3450 rpm.

Of course, fueloil has to be supplied to the atomizer, which can be accomplished by driving a pump from a worm-and-gear shaft off the main shaft, or by a separate pump. The burner also requires means for regulating the oil flow, and for igniting it when starting up. The air stream around the cup supplies about 15% of the total combustion air, the remainder being delivered into the firebox, usually by natural draft but not always, through secondary air ports. The air delivered through the nozzle around the cup has a dual purpose. Primarily, it acts as a vehicle to support the atomized fuel spray, and is known as primary air. Of course, it also enters into combustion. To a large extent, the shape of the air nozzle, the amount of primary air passing through, and the spin (if any) imparted to the primary air, control the shape of the fire.

Horizontal rotary predominates

The horizontal rotary burner leads the field in industrial work because it is readily adapted to automatic firing, which constitutes one of the important reasons for using oil fuels under boilers. In other industrial burner applications, automatic control is not of paramount importance and indeed often is not used. When oil firing kilns, retorts, metallurgical pots and furnaces, drying ovens, and many other operations of industry, an attendant lights off the fire and exercises more or less continuous supervision over it. Such a burner usually consists of nothing more than a nozzle supported in firing position, the nozzle being an arrangement for mixing together an air stream and a fuel sup-

*C. Hoffberger Co., Baltimore, Md.

ply, with the necessary regulating valves for each. Secondary air enters, usually, through a circular firing port surrounding the nozzle. Often a battery of such nozzles will be supplied with fueloil and atomizing air from a central pump and blower unit.

A third important classification of industrial burner is the mechanical pressure atomizer, used in firing central station boilers such as found in utility plants, large industrial establishments, and on shipboard. This burner has a nozzle similar in principle to the domestic pressure atomizing nozzle employed so extensively in gun type burners, but, of course, the industrial burner has much larger atomizing capacity and the slots and orifices in the nozzle are designed to handle heavy fueloil.

Less frequently, one encounters the steam atomizer in miscellaneous industrial applications. Steam is an expensive atomizing medium, and its use is not so general today as during past years. The most recent development with steam atomization incorporates a steam nozzle with a pressure atomizing nozzle described in the preceding paragraph, for use in large central station boilers.

Fueloil Specifications

Before any attempt can be made to assign to each of the burner types mentioned the correct grade of fueloil, a brief summary must be made of the basis of fueloil classification. The Bureau of Standards, from time to time, issues a set of specifications (CS 12) governing trade practice in that branch of the petroleum industry that deals with fueloils. These specifications, however, are really prepared by the American Society for Testing Materials, and then issued as the government standard. The specifications, at best, are a compromise between two viewpoints—that of the burner manufacturer, who wants a narrow band of limiting values for each grade, and that of the refiner, who wants as broad a band of values as possible for each grade. Hence it is not surprising to encounter such confusing conditions as prevail, for instance, with the distinction between No. 2 and No. 4—at one end of the specification band No. 4 almost reaches the properties of a No. 2. It was to avoid that confusion that No. 4 was abolished, back in 1940 (CS 12-40), and for eight years there was no such grade. But the set of specs promulgated in 1948 re-established No. 4 and abolished No. 3 (CS 12-48).

Underwriters' Laboratories list approved burners on the basis of the heaviest grade of oil that can be burned with each. All horizontal rotary burners (except one or two sizes intended only for domestic heating) are approved to burn No. 5 oil cold or No. 6 oil preheated. A couple of medium air pressure burners are approved to burn No. 5 oil preheated. Low pressure air nozzles burn No. 2 oil in smaller sizes, No. 4 oil cold in moderate capacity ranges, and No. 5 oil preheated in a few exceptionally large applications. Mechanical pressure atomizing burners usually burn No. 6 oil preheated, as also do steam atomizers.

The designer of an industrial burner installation must consider, and work out a selection of: oil storage, oil piping, oil pump, oil metering, oil preheating (if any), tank filling and venting; burner size and type, control, ignition, combustion safeguard, electric wiring; boiler setting, burner mounting, combustion chamber arrangement, refractories; draft, and draft control, to mention only the most obvious and natural classifications. Each will be considered in detail in subsequent articles in this series.

The dealer who handles industrial oil burners must visualize each job as an integrated system, not as merely an assemblage of sundry parts and elements. Starting from the tank and ending with the flame, each component of the system bears a relationship to the others. Each installation must be designed. The engineering thought devoted to planning the design will be amply repaid in satisfactory performance and efficient, trouble-free operation, a job that pleases the customer and brings profit and gratification to the dealer. It will be the aim of this series of papers to discuss all the component elements of the industrial oil burner system, and to set down the basic data for design.

Mechanical contrivances being man made they reflect the fallibility of man. Hence the burner dealer needs a service department. And the service department needs servicemen. To be a good serviceman, the industrial burner serviceman needs to know a little more about piping than the pipefitter, a little more about electrical circuits than the electrician, a little more about combustion than the boiler setter, a little more about draft control than the sheet metal erector, and, most important of all, a little more about people than most people know. Except that no attempt will be made to delve into psychology, this series of articles will analyze servicing from the burnerman's viewpoint—locating, correcting, and preventing a repetition of, the complaint.

(*Ed. note — The author has consented to answer questions on industrial oilburning. Address him in care of the magazine.*)

We need better Equipment

Avenues for Improvement to be studied by oilburner Manufacturers

by
Max Seltzer*

THE USE OF BUNKER "C" for firing boilers for larger buildings and process purposes dates back about fifty years. The first equipment for preparing heavy oil for combustion was manual. Within the last twenty years, developments have been made in changing the oilburners from manual to automatic types.

At normal atmospheric temperature, Bunker "C" Oil has the consistency of molasses. It cannot be burned successfully unless it is heated to a higher temperature at which point it flows easily and can be properly atomized or prepared for combustion. Too high a temperature results in gasification and interferes with atomization process. Too low a temperature yields poor results because the oil is too viscous for the atomization process. Best performance is realized in the 140°F.-180°F. range for most Bunker "C" Oils.

COMMERCIAL & INDUSTRIAL oilburning

In the industrial field—namely large plants operating continuously—excellent results have been achieved, within certain limitations, in handling and burning Bunker "C" Oil automatically. In this category, the load is usually continuous, though variable. The burners are started manually and then the controls operate them fully automatic. The oil is heated automatically (usually by steam) and is maintained at a uniform temperature by means of suitable regulating devices. Since the equipment operates continuously, the oil is pumped and is flowing at the prescribed temperature at all times. Stated another way, this system means a constant low viscosity of the oil at the burner. Furthermore, the manufacturers and installers of the equipment have developed automatic control and mixture of air and oil through the use of registers, combustion chamber design, and regulating devices.

*President, Seltzer & Co., Inc., Boston.

Progress toward Automatic

In the commercial field—usually low pressure heating plants operating intermittently — considerable progress has been made in burning Bunker "C" Oils automatically, but much remains to be done. The most spectacular success has been made in the controls that monitor the ignition of the oil and shutting down the equipment in case of flame failure. On the other hand, preparation of oil for good combustion leaves much to be desired. The controls on the oil heaters (most of which are heated by boiler water) are inadequate and often not provided. As a result, the oil viscosity changes over a wide range and with it, the efficiency of combustion. In addition, the intermittent operation of the equipment adds further difficulties in that the oil in the pipe lines (cooled off between cycles) must be burned before the fresh heated oil is introduced into the burner. Attempts have been made to compensate for these variations with automatic regulating or viscosity compensation valves. In fact, however, these valves are only effective within narrow limits at the higher temperature ranges. The industry has lagged in a fundamental approach to the problem—namely, that used in the industrial field—continuous heating and flow of the oil to maintain it at the correct low viscosity at the burner at all times for efficient atomization and combustion.

It is this writer's conviction that the best way to handle the preparation of Bunker "C" Oil for combustion is by the following means: All installations should have a remote fuel pump set that operates (1) when the burner controls call for fire within the boiler and (2) through a return line aquostat which must be satisfied when there is no flame in the combustion chamber. In addition, there must be a suitable oil heater which is amply sized to raise the oil temperature to a minimum of 160°F. If the oil heater is heated with steam, it must be accurately controlled by a steam temperature regulator. If the oil heater is a below the water line type heated by boiler water, the boiler water should be pumped by a circulator and the latter operated by a control in the oil discharge line from the oil heater. Finally, the oil suction and return lines within the oil tank should be connected to a hot well. It is also recommended that the oil suction and return lines between the oilburner and the tank be covered with insulation. Installations made as described herewith provide oil at all times at the minimum temperature of the aquastat at the burner. A proper setting of the aquastat assures low viscosity of the oil, easy pumping, and good atomization.

Uniform secondary Air

There is another problem facing the installer of horizontal rotary oilburners; namely, proper mixing of air and oil. It is commonly conceded that the primary air fan supplies about 15% of the air required for combustion. The balance of 85% is provided by the natural draft of the chimney, usually through a secondary air door directly under the burner. The new boiler-burner units introduce this secondary air uniformly around the flame and realize high efficiencies. In a few isolated instances, wind boxes have been used on conversion installations to replace the air gate under the burner and by this means mix the secondary air with the oil more nearly uniformly around the atomizing spinner cup. This use of the wind box has yielded high efficiency of combustion, cleaner fires, and minimized smoke.

Fleeting reference has been made to the operating controls. Much progress

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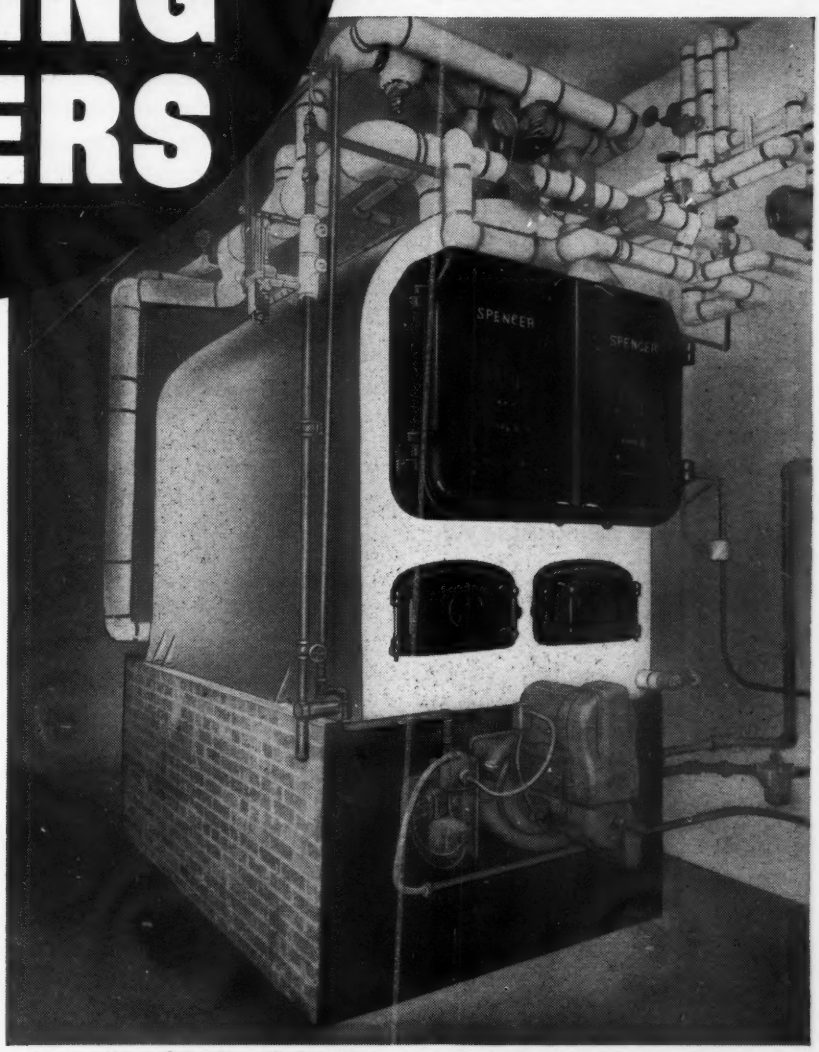

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LYCOMING-SPENCER DIVISION
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has been made by the manufacturers of these devices—particularly, through the use of electronics. Antiquated slow operating and unsatisfactory stack switches are rapidly being replaced by quick acting "electric eyes." These new control devices assure ignition of the fuel and stop the burner instantly in the event of flame failure.

Unfortunately, however, the manufacturers of horizontal rotary burners have not kept pace with the control manufacturers. The design of the equipment is essentially the same as twenty years ago except for detail.

This writer's challenge to the heavy oilburner industry is this—how about some research that will lead to better operation of the oilburner and combustion of the fuel. Such a fundamental approach to these problems might result in developing new methods of pumping, heating, and circulating Bunker "C" Oil, and better and more intimate mixing of air and fuel. Do we have to wait for an oil company to develop the equivalent of a "Shell" head for the horizontal rotary burner?

Commercial-Industrial Committee of OHI holds organization Meeting

TWENTY INDUSTRY MEN particularly interested in the commercial and industrial phases of oilburning got together to organize a group within the framework of the Oil-Heat Institute of America. The meeting was at New York on June 20, with Cy Burg of Iron Fireman as chairman. Those present represented 11 principal manufacturers of heavy oil equipment.

Invitations had been sent to 16 companies, so the turnout for the first meeting was very favorable. One of the first decisions made at the session was that all manufacturers of heavy oil equipment would be invited to participate in the activities of the group, whether or not they are now members of the Institute.

Three principal activities are to be immediately set in motion. First is to be Government liaison on the particular problems of this summer . . . material and price controls. Fred Hainer of Cleaver-Brooks, Milwaukee, is chairman of this group. Initially, he is to be supplied with the necessary facts and figures through an industry questionnaire study arranged by Ralph Becker, managing director of OHI.

Commercial - Industrial *Oilburning group at the New York Meeting. Front row, left to right: G. D. Frank of York-Shipley, J. V. Resek of Cleaver-Brooks, Perry Wolf of National, A. A. Arvintz of Lancaster, C. T. Burg of Iron Fireman and chairman of the group, R. S. Bohn of Preferred Utilities, R. H. L. Becker, managing director of OHI, G. T. Kaufman, technical secretary of OHI. Rear row, from the left: E. W. Sweigart and A. V. Bayer of Simplex, R. P. Johnston of Johnson, W. H. Bohn of Preferred, F. W. Hainer of Cleaver-Brooks, J. N. Brophy of Enterprise, J. W. Cowan of Ace, H. K. Ricker of Gilbert and Barker, J. F. Wade of Simplex, E. C. Webb of Iron Fireman, B. K. Breed of Preferred and Robert Gray of* FUEL-OIL & OIL HEAT.

The consensus of the manufacturers present at the meeting was that at the moment they have enough materials for day-to-day production but expect to run into acute shortages before the fall months. Inability to get large oil tanks and to get supply commitments for fuel from the oil industry are holding back sales this summer much more than shortage of actual burner components. Becker, through his tank industry connections, will try to get some early relief on this problem.

Another important topic discussed at the meeting was that of getting adequate standards set up for combination oil and gas burners in the industrial field. In the absence of standards there is a great deal of confusion in the industry on this point, as individual cities attempt to set up their own, without any studied background material from a central laboratory source.

Bow Breed of Preferred Utilities, New York, was appointed chairman of a special subcommittee to cooperate with Underwriters' Laboratories, Chicago, in developing a set of standards and eventually starting a label service similar to that now in use on other oilburning equipment. Breed was also appointed chairman of the groups Engineering subcommittee since this activity is always of top interest in the heavy oil field. To serve with him in that group will be Ernest Webb of Iron Fireman, George Frank of York, Jack Cowan of Ace, Abe Arvintz of Lancaster, Jack Wade of Simplex and Verne Resek of Cleaver-Brooks.

EASIEST TO INSTALL!

Because H. B. Smith cast iron boilers are assembled from precision-machined sections and parts, they are easily erected at the installation with a minimum of labor.

EASIEST TO CONVERT!

H. B. Smith boilers are easiest to convert to different fuels, should the one in use become in critical supply. All operate with great efficiency with solid fuel, oil or gas. In low-cost natural gas areas, H. B. Smith boiler conversions are bringing clean, trouble-free, inexpensive heat to hundreds of users.

EASIEST TO EXPAND!

When increasing the capacity of an H. B. Smith boiler to meet additional heating requirements, or when replacing it, it is not necessary to tear out a wall, part of a foundation, or both.

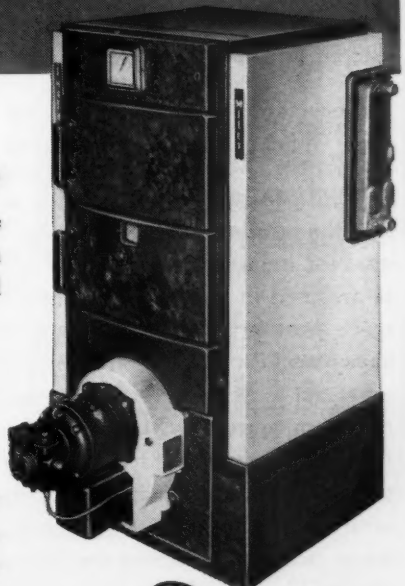
Give Your Customers the Benefit of the World's Broadest Line!

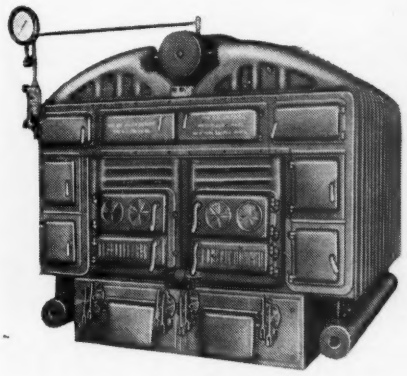
H.B. Smith

CAST IRON BOILERS FOR HEATING AND DOMESTIC HOT WATER

100 Boiler-Burner Unit Means More Home Sales ▶

Compact, easy to install! Designed to give fast heat and plenty of hot water for the average home. Furnished with built-in tank type or "tankless" water heater; available with flush jacket as shown, or with jacket expanded to conceal the oil burner.





◀ 60 Smith Boiler For Largest Installations

May be used singly, or in batteries for heating loads up to and over 100,000 sq. ft. steam radiation. Many of these large units installed in industrial plants furnish steam for process requirements as well as for heating and domestic hot water.

H. B. Smith

THE H. B. SMITH CO., INC.
Westfield, Mass.

Low pressure commercial Burners

Flexibility and Adaptability give them certain Advantages

by
J. Verne Resek*

THE DEVELOPMENT OF THE self-contained boiler in our shop during the past twenty years has resulted in considerable research with all the known types of oilburners. This research not only covered boilers but also conversion burners or burners used with standard type boilers. This field embraces burners operating at a capacity of from 3 gallons per hour to 150 gallons per hour, and tests have been conducted over a period of many years with high pressure gun type burners, low pressure air atomizing burners, steam atomizing burners, and rotary cup burners of various designs. It has been found that each type of burner has its own advantages and disadvantages and that each fits a particular field.

This paper will point out in general the field of each type of burner but in particular the field for the low pressure air atomizing burner.

Processed Heat Versus Steam for Warm Air Space Heating

While, in general, it has been said that the same types of burners can be used for industrial or processed steam as are used in the steam or warm air space heating boiler or furnace, we have found it necessary on many process steam jobs to maintain very accurate temperatures. Many industrial furnaces require so accurate a temperature that it is unsatisfactory to operate with an "Off" and "On" burner. A more accurate temperature can be obtained by modulating between high and low fire.

Illustration 1 shows a typical example of a recording temperature chart, showing the temperatures maintained in a core oven in which a burner is set to modulate between high and low flame. Such applications as dryers, potato chip cookers, and many others, require such a modulating burner. In general, a steam heating job can be operated with an "On-Off" Burner, although in a warm air furnace it is desirable to have a high-low flame so that there is a circulation of warm air at all times, even when the rooms do not require more heat. These jobs are usually arranged so that the burner modulates between high and low flame at the demand of a temperature control in the bonnet of the furnace, and the room thermostat controls the circulating blower.

Selection of an Oilburner

The selection of an oilburner depends on many factors, some of them more important in some cases than in others. Following is a list of some of the many factors that must be taken into consideration:

1. Fuel cost.
2. Burner cost.
3. The cost of installation.
4. The adaptability of the burner to burn a number of grades of fuel.
5. The adaptability of the burner to different shapes and sizes of fireboxes.
6. The need for completely automatic operation.
7. The advantages of furnishing all the air for combustion, as against using a stack or chimney for inducing sufficient secondary air.
8. The maintenance time and cost of keeping the burner operating at high efficiency, which may be called burner maintenance.
9. The combustion efficiency.
10. The over-all efficiency of the boiler and burner, or of the furnace and burner.
11. The need for modulation.
12. The ease of ignition.
13. The availability and cost of gas for ignition.
14. The experience, facilities, and responsibilities of the manufacturer of the burner.
15. The thoroughness of inspection or fire testing of the burner before it is shipped.

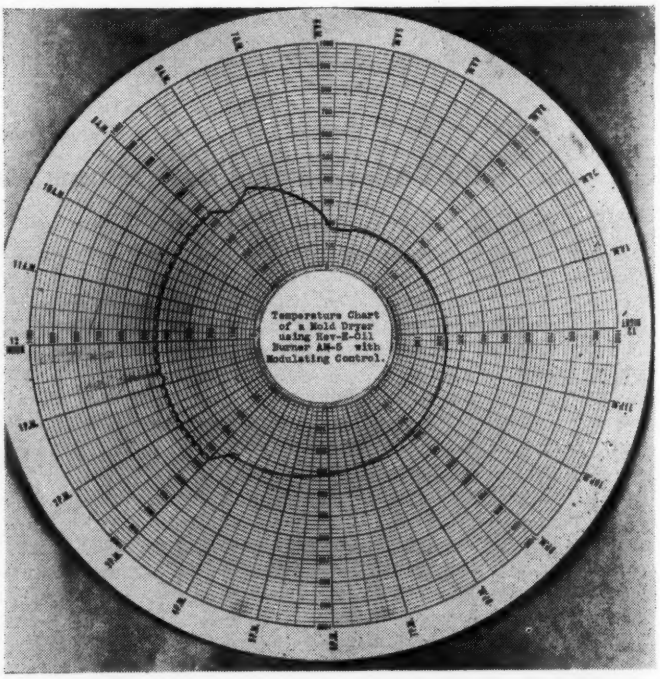
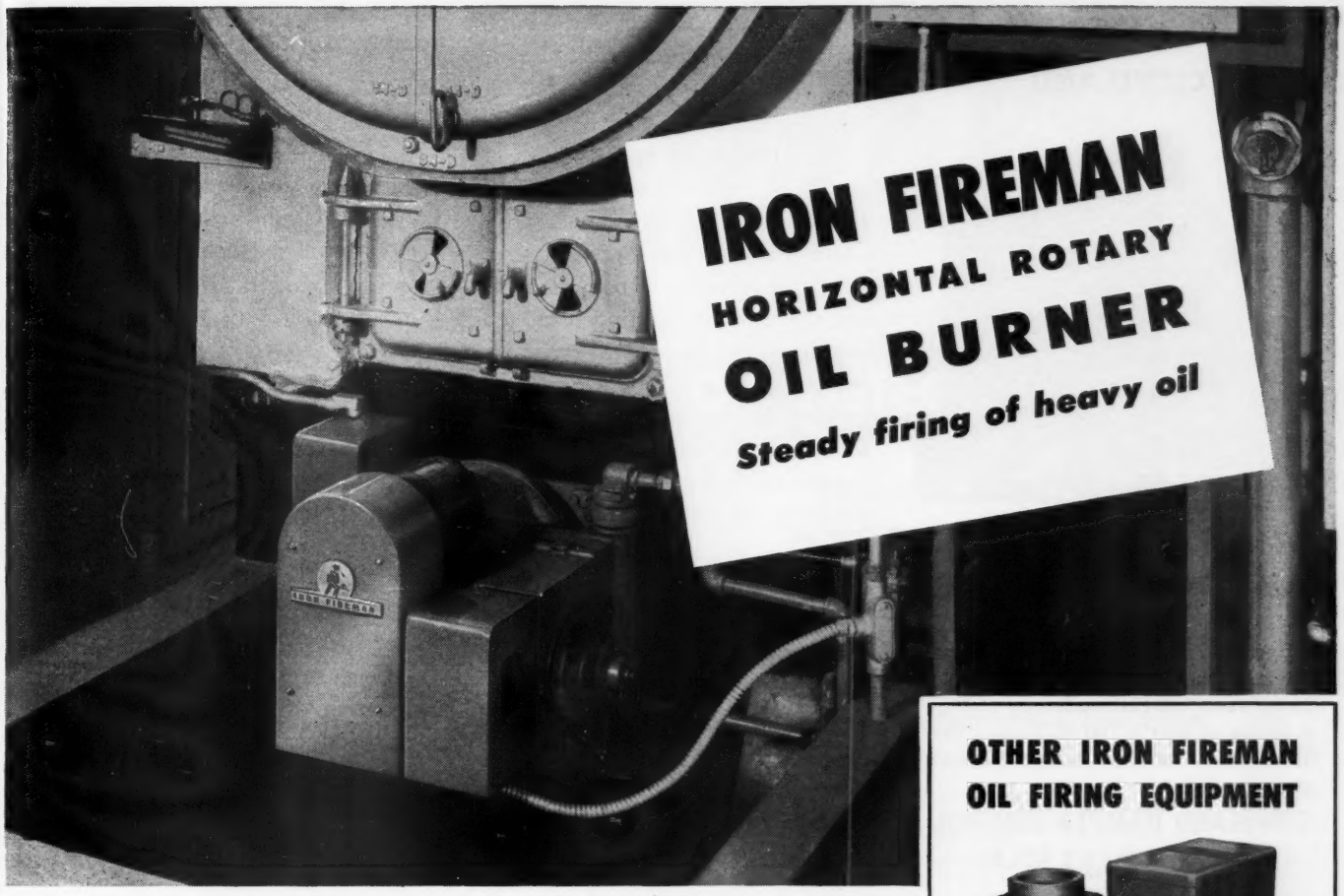


Illustration 1, *typical recording temperature chart for modulating flame installation.*

*Manager, Oil Burner Div., Cleaver-Brooks Co., Milwaukee.



A real sales opportunity with a heavy oil burner of proved superiority

This amazing oil burner fires the low-cost, heat-rich, heavy fuel oils with a steady, uniform flame. The Iron Fireman exclusive Oil Volumeter does the trick. It meters the oil to the nozzle *by volume*—not by the old-fashioned method of adjustable ports or tricky valves. Oil feed rate stays within ½ of 1% of setting, regardless of varying oil temperatures. The result is even, efficient firing and dependable starting.

Just present the facts—industrial and commercial users readily see how this burner will save them money.

Best oil franchise in the business

Check these 5 big reasons why you profit from an Iron Fireman dealership—then mail the coupon below for full information.

1. The unique features and outstanding fuel economy that are built into Iron Fireman oil burning equipment make it easy to sell.

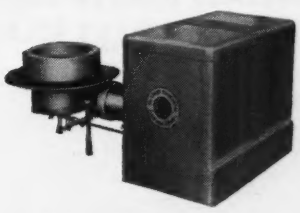
2. The Iron Fireman trademark, with 26 years of continuous national advertising and user satisfaction behind it, gives all Iron Fireman equipment exceptional salability.

3. Iron Fireman has a complete line of residential, commercial and industrial oil burning equipment.

4. There's automatic equipment . . . a full line . . . for gas and coal, too.

5. Iron Fireman dealers receive strong company backing which includes local advertising, merchandising, sales training and engineering assistance.

OTHER IRON FIREMAN OIL FIRING EQUIPMENT



IRON FIREMAN
VORTEX OIL BURNER

Whirling bowl-shaped flame starts at the grate line, covers hearth and sweeps side walls. Radiant heat penetrates walls and crown sheet of combustion chamber in same manner as coal fire for which most furnaces were designed. Burns No. 2 oils or lighter. Exceptional economy record in thousands of homes.

Iron Fireman OIL FIRED BOILERS AND FURNACES

Designed to take full advantage of efficient heat of built-in Iron Fireman Vortex oil burner. Furnace capacities range from 85,000 to 270,000 Btu per hour; boiler capacities from 115,000 to 270,000 Btu per hour. Bodies of heavy welded steel plate; steel cabinets are finished in easy-to-clean baked enamel.

IRON FIREMAN

FIRING EQUIPMENT FOR OIL, GAS, COAL

IRON FIREMAN MFG. CO.
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Please send me complete information on Iron Fireman oil heating equipment, dealer franchise, and territories available.

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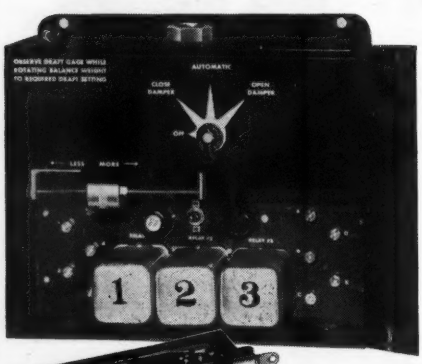
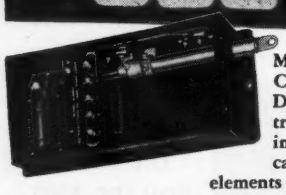
Commodore Hotel
CLEVELAND

SAVES 17,000 GALS. FUEL OIL IN 4 MONTHS

In the first four months after installation, Cleveland Damper Controls cut fuel consumption for Commodore Hotel's two 100-H.P. boilers by 17.7%, a saving of over $1700.00. Cost of the installation was saved in the first two months!

CLEVELAND DAMPER CONTROL with TIME-DELAY RELAY





Above: Open view Cleveland Damper Control.

Below: Open view "Lectricarm" power drive unit.

Model DCR-B Cleveland Damper Control provides—in one compact cabinet—all the elements for safe, automatic, electrical remote control of boiler operation. Designed for use with C.F.E. gages and "Lectricarm" (power drive unit.)

★ ★ ★

Besides fuel savings, C.F.E. controls reduce smoke, soot and fly ash, prolong life of boiler equipment and materially increase safety of your boiler.

Write for Bulletin

CLEVELAND FUEL EQUIPMENT CO.
7316 Associate Ave. • Cleveland 9, Ohio
Complete Line of Combustion Instruments and Controls

16. The completeness of the burner as shipped in regard to oil connections, controls, wiring, etc.

The Fuel to Burn

The first consideration in choosing a burner is the cost of the fuel to burn. While the efficiency of both the burner and the complete heating plant must be considered, the primary choice must be made on the basis of the cost per Btu of the fuel to be burned. It is common knowledge that certain burners are better adapted to certain grades of oil than are others.

No 2 Fueloil. No. 2 fueloil has approximately 140,000 Btu per gallon and is considered to be an oil whose 90% distillation point is not higher than 675° F. That is, when the oil is heated and distilled off, the temperature reaches 675° when 90% of the oil has been distilled. In general, this is the proper oil to use in a pressure atomizing burner in which the oil is passed through a small nozzle orifice at a pressure of about 100 to 125 psi. Illustration 2 shows a pressure atomizing burner in our small steam generating plant. A two nozzle burner is used, each nozzle having a maximum capacity of about 5 gallons per hour. As the nozzle orifice increases the degree of atomization decreases. Therefore, burners of this nature should have more than one nozzle.

These burners are not usually used in sizes above 2 or 3 gallons per hour, since No. 2 oil is considerably more expensive than the heavier oils. When a burner of over 3 gallons per hour is used, a sufficient amount of oil may be consumed per year to afford greater savings by using the heavier fuels. It is often an economy to spend more for the initial installation of the burner in view of the saving by using low cost fuel.

Some troubles have been experienced in conventional burners, even when using No. 2 oil that meets the specifications shown above. These are usually due to the new catalytic cracked oils. It is difficult to produce a burner that will burn 100% catalytic cracked refinery distillates as well as blends with thermal cracked oils. However, advances in secondary air swirlers and cones have eliminated this trouble to some extent.

No. 4 Fueloil. No. 4 oil contains approximately 144,000 Btu per gallon

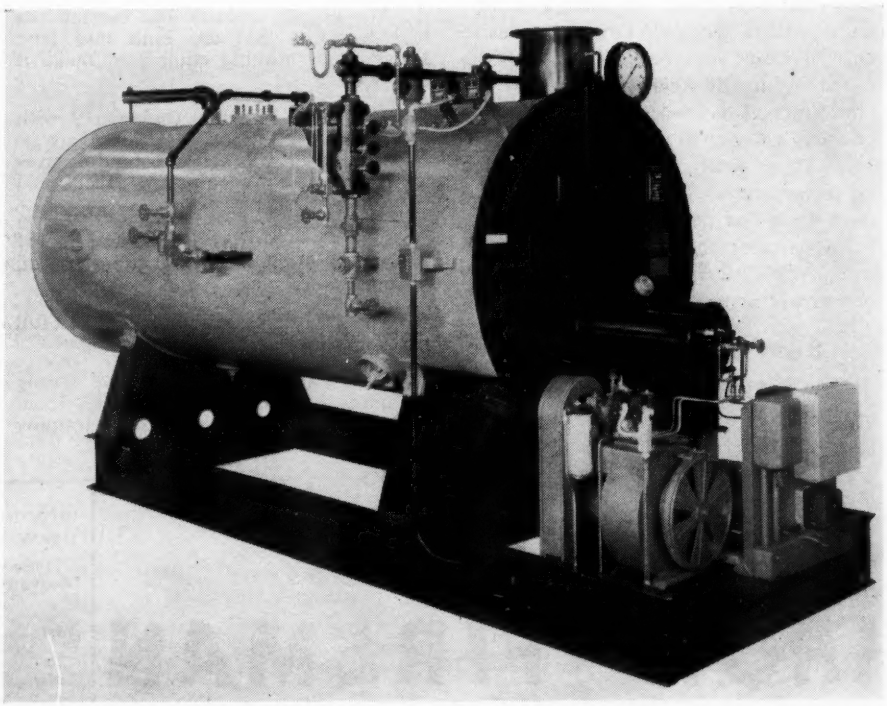
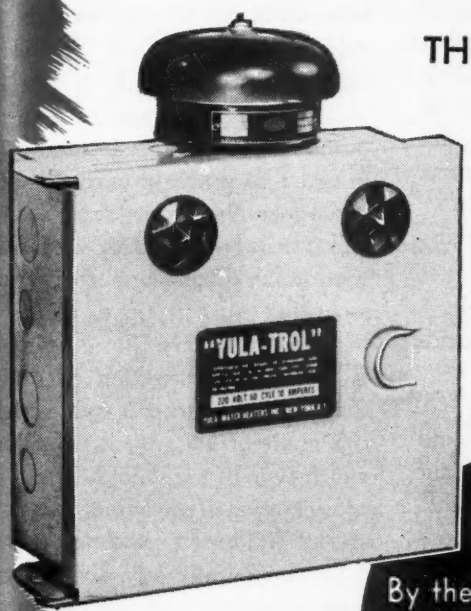


Illustration 2, *steam generator fired with pressure atomizing oilburner.*

THE Yulatrol

The Approved FUEL OIL DETECTOR !

FOR USE WITH NO. 6 (BUNKER "C")
Fuel Oil



THE ***YULA-TROL*** RELAY BOX with LIGHTS and ALARM

A SAFETY DEVICE EVERY HEAVY OIL BURNER INSTALLATION SHOULD HAVE!

Approved
By the New York City Board of Standards and Appeals
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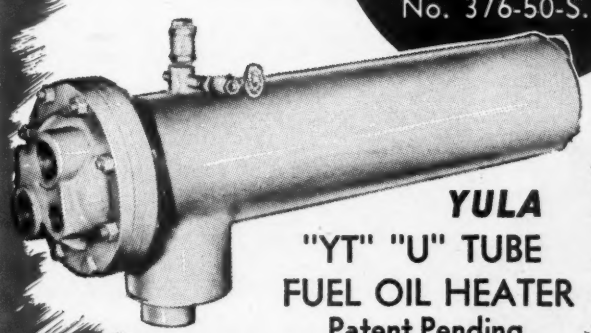

YULA
"YT" "U" TUBE
FUEL OIL HEATER
Patent Pending

Here is the much talked about safety preheater! The YULA-TROL fuel oil detector, the YULA "YT" "U" tube fuel oil heater containing an oil de-entrainment chamber and a specially designed probe, combines to give you every safety feature you need for efficient and economical oil heating. These items, New York City approved as a complete unit, are used by many of the leading oil burner installation firms in the field. It is exceptionally low priced and our * customers say it's "best by test."

IMMEDIATE DETECTION

This device almost talks! If an oil leak occurs, it shuts off the burner, rings the gong, turns on the red light! This occurs in just 45 seconds after an oil break. It also functions as a low water cut-off.

Very little wiring cost is involved. Every relay box contains full wiring diagram.

EST. 1926

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** Call my Contractor or Dealer for this Option*

New Enterprise
OIL BURNER DISTRIBUTORS

Yes, 28 new Enterprise Oil Burner Distributors, in the United States and Canada, have been added within the past year to augment the well established Enterprise distributor sales organization. They have been carefully selected, and are highly qualified in every respect to handle complete engineering and servicing of Enterprise commercial and industrial burners.

UNITED STATES

Heating Services, Inc.	Baltimore, Md.
Southern Machinery Co.	Charleston, W. Va.
Acme Engineering Company	Portland, Me.
Adams & Noe Incorporated	Rutland, Vt.
Atrolene Oil Company	Lowell, Mass
H. W. Buckley	Fall River, Mass
Central Oil Co. of Worcester	Worcester, Mass.
City Heating Co., Inc.	New London, Conn.
Cragin & Wilkins Co., Inc.	Leominster, Mass.
Crown Petroleum Corp.	Hartford, Conn.
Eckhardt & Johnson	Manchester, N. H.
Enterprise Industrial Oil Burners	Lawrence, Mass.
Enterprise Oil Burner Sales Co.	Boston, Mass.
S. N. Foster	Augusta, Me.
The Hincks Coal Company	Bangor, Me.
J. K. Horne Co., Inc.	Dover, N. H.
Lamson Oil Corporation	Providence, R. I.
Mutual Oil Co., Inc.	Brockton, Mass.
Nashua Coal & Oil Co., Inc.	Nashua, N. H.
R. H. Parent Co.	New Haven, Conn.
Rhode Island Heat & Power Company, Inc.	Woonsocket, R. I.
W. H. Riley & Son, Inc.	No. Attleboro, Mass.
George E. Warren Heating Corp.	Lynn, Mass.

CANADA

Advance Heating Company	London, Ont.
Combustion & Power Equipment, Ltd.	Montreal, Que.
Mayfair Manufacturing Co.	Toronto, Ont.
Oil Burning Equipment Enterprises, Ltd.	Hamilton, Ont.
The Roto-matic Co., Ltd.	Saskatoon, Sask.

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Enterprise
DEPENDABLE
Oil Burners

ENTERPRISE ENGINE & MACHINERY CO.
A Subsidiary of General Metals Corporation
18th & Florida Sts., San Francisco 10, California

COMMERCIAL INDUSTRIAL oilburning

and is classified by the Commercial Standards as oil with a maximum viscosity of 125 Seconds Sayboldt Universal at 100° F. and with a pour point of not over 20° F. A 20° F. pour point for #4 fueloil is unusual. A high pour point usually indicates a considerable amount of paraffin, and for this basic reason No. 4 oil should never be used with a pour point higher than 0° F. No. 4 oil is not suitable for use in a gun type burner. That is to say, the burner will not operate as completely automatically and with as little service as when operated with No. 2 oil. No. 4 oil has almost 3% more Btu and is oftentimes at least a cent per gallon less than No. 2 oil. This oil is ideally suited for the air atomizing type of burner, as shown in Illustration 3. An explanation of the operation of this burner is given below. While this oil is not available in many parts of the country, it makes an economical and satisfactory oil for use in an air atomizing burner.

No. 5 Fueloil. The limits of No. 5 oil, as given in the Commercial Standards, range all the way up into very heavy Bunker oils. Therefore, the No. 5 oil discussed in this paper should have a limiting factor of a pour point not higher than 10° F. and a maximum viscosity of from 300 to 350 Seconds Sayboldt Universal at 100° F. This oil has a heat value of approximately 150,000 Btu per gallon, which is over 7% greater than No. 2 oil. The price of No. 5 oil varies widely but in general it may be stated that it is from two to four cents a gallon less than No. 2 oil.

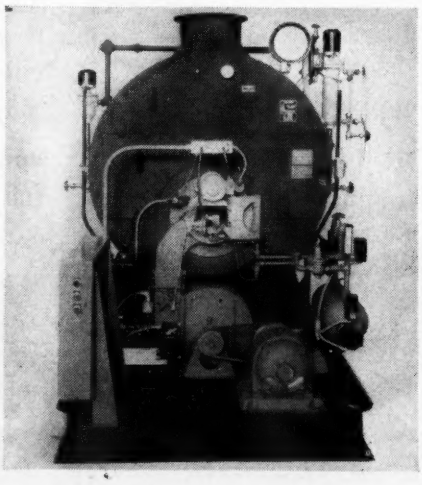


Illustration 3, *rotary cup #6 oilburner.*

This oil is suitable for burning in steam atomizing, rotary cup burners, and low pressure air atomizing burners. The selection of which of these three burners to use depends on a consideration of the other fifteen points previously mentioned. These points will be discussed below.

No. 6 Fueloil. No. 6 oil contains approximately 152,000 Btu per gallon. The Commercial Standards list a maximum viscosity of 300 Seconds Sayboldt Furol at 122° F. An oil this heavy must be heated to at least 150° before it can be pumped, and in most burners, must be heated to above 200° in order to properly burn. No. 6 oil is considerably cheaper than No. 5 oil, and it may be burned in either a high pressure air atomizing burner, a steam atomizing burner, or a rotary cup burner. Our Rotary Cup #6 oilburner is shown in Illustration 3. Each of these types of burner is well suited for this grade of oil, and the selection of which type to use should depend on a consideration of the points enumerated above. The use of oil as heavy as No. 6 is economically advisable wherever a great quantity is burned and a competent attendant is available to watch temperatures, pressures, and keep burner parts clean. In the writer's opinion it is not nearly as satisfactory as No. 5 oil when used in smaller size burners for completely automatic operation.

(To be continued. The second half of this article will appear in the next issue.)

❖

Three Perfex Bulletins cover industrial Controls

THREE BULLETINS ready for distribution by Perfex Corp., Milwaukee, Wis., cover automatic controls and instruments for Perfex Draft Control Systems. One bulletin deals with oil, a second with gas and a third with stoker-firing, with the function of the

NOW! 5 MINUTES TO PREPARE YOUR BID

for these High Profit Bunker Oil Installations!

More and more engineers are specifying Thermal Electric for bunker oil heating — are you ready to land these profitable contracts?

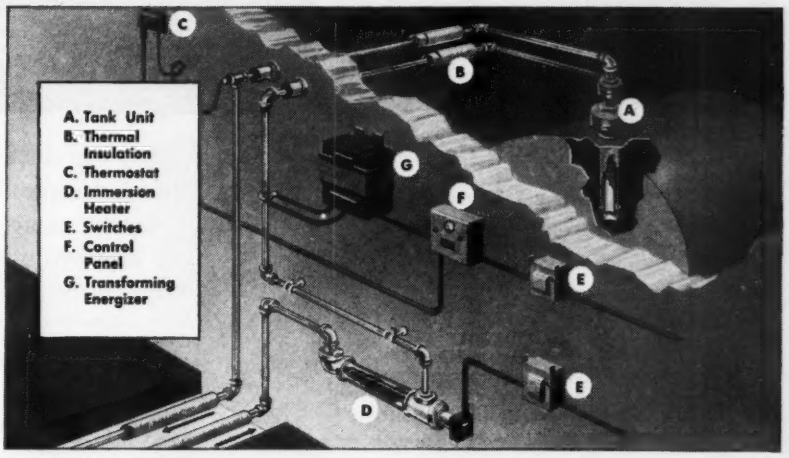
You will be ready if you'll send in NOW for easy-to-use Thermal Electric calculation forms. Sitting at your own desk, with no other material than these forms and the specs for the job, you can estimate all your bunker oil heating equipment costs in *five minutes!*

You do not have to consult us before bidding. Just fill in a few blanks with data such as pipe length and number of burners. This *automatically* gives you your equipment list and costs.

For special cases, we furnish another handy form ("Quotation Request") which you fill out and mail to us. We send you back your Thermal Electric equipment list and prices.

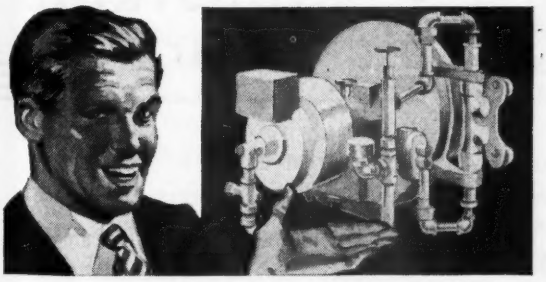
Get these forms and keep them *on hand.* They'll save you time and work. You'll be able to submit fast, accurate, safe bids, and land profitable Thermal Electric contracts.

Besides a complete set of forms, you'll receive an easy-to-understand explanation of Thermal Electric. Send in the coupon *now!*



THIS IS THERMAL ELECTRIC: Thermal Electric is a completely automatic, all-electric system of transporting #6 bunker oil from unheated storage to the oil burner(s) at 120°F. The Transforming Energizer passes safe, low-voltage current through the pipes carrying the oil. The oil is heated evenly over the entire system—no hotspots or coking. The system can be shut down without draining. Flip the switch—the solidified fuel melts and flows, with no blow-torches!

IT WORKS WITH ANY BURNER!



Outstanding Thermal Electric installations have been made in combination with these burners:

Ray • York • Petro • Johnson • Todd Enterprise • Iron Fireman • Preferred • Gilbarco Superior • Ames • Cyclotherm • Rexoil • Hauck Cleaver-Brooks • North American • Ace Indiana • and others.

Send Coupon Now!

THERMAL ELECTRIC EYE OPENERS

Did you know—

—that with Thermal Electric, recirculation is completely eliminated? Equipment costs are cut. Gone are the headaches of installing a lot of complicated gadgetry requiring repeated service calls.

—that with Thermal Electric there is no need for constant or cycle operation? Multiple suction lines are eliminated. Labor and equipment costs are reduced.

—that Thermal Electric is 100% automatic? All-electric operation eliminates maintenance headaches of steam or hot water systems, eliminates service problems for you.

—that with Thermal Electric remote pump sets are unnecessary in most cases? More costs cut!

—that Thermal Electric removes fuel from *unheated* storage without auxiliary heat? The Tank Unit which does this is simple to install, eliminates the hazards of oil leaking into steam or hot water systems.

—that Thermal Electric *guarantees* to (1) remove #6 oil from unheated storage and (2) deliver it to the burner at 120° F.?

—that more and more engineers are specifying Thermal Electric? Are YOU ready to bid?

Thermal Electric Fluid Systems INC.

Fluid Systems Inc., 1881 Dixwell Ave., New Haven 14, Conn.

Please send complete set of Thermal Electric cost estimating forms, plus free descriptive literature to—

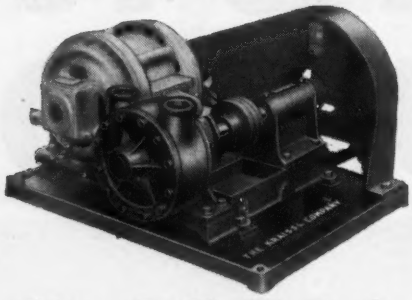
Name _____

Address _____

City _____ *State* _____

FOC 1

for Heavy Oil Service



Class 60 PUMPS
pull cold oil!

After many years of outstanding on-the-job performance, the Kraissl "60" pump has been acknowledged as one of the most efficient for heavy oil service. For direct burner service installations—or booster service on pump type burners. Of the internal gear type, the "60" is machined to close tolerances—for maximum vacuum characteristics with heavy oil. The outstanding design advantage is the ball bearing, V-Belt reduction drive-connected to pump by means of loose coupling, which eliminates side deflection from pump shaft. Suction and discharge sizes from ½" to 2". Capacities, 75 to 2100 GPH; pressures to 100 psi.

Write for Bulletin A-1193

Standard & High Pressure SEPARATORS

Adequate strainers for both suction and discharge service are essential on every heavy oil installation. Kraissl separators are available in single and duplex units for both standard and high pressure service. Available with Underwriters Labels from ¼" to 4"; larger sizes up to 6".

Advantages of our design are: ease of cleaning; and interchangeability of separator baskets—from coarse straining to fine filtration. Cleaning of removable separator baskets restores original efficiency—thus eliminating normally expensive replacement costs.

Ask for Bulletin A-1430

If you have any special problems—or need more information—please write us fully. You will receive a prompt and detailed reply.

KRAISSL CO. Inc.
295 WILLIAMS AVE., HACKENSACK, N. J.

A truck load *of four million Btu's begins a trans-continental ride from East Port Chester, Conn. to St. Louis. Four Thermobloc direct-fired unit heaters are shown being loaded for their trip to the Valley Steel Products. Prat-Daniel Corp., manufactured the heaters and Valley Steel sent its own truck to pick them up.*

System completely explained in each.

Application of each control is shown by a pictorial layout, complete with typical wiring diagrams illustrating how the Systems can be incorporated into the burner control systems. The wiring diagrams also show relationship of other Perfex automatic controls. Copies of each may be secured from Perfex, Industrial Controls.

General Controls adds to Glendale Factory

CONSTRUCTION of a 24,000 sq. ft. addition has begun at the Glendale, Calif. plant of General Controls Co. It is expected the new unit will be completed in 90 days, when the extra facilities will be devoted entirely to research and engineering activity. The new structure will be two stroies high, the first such building to be erected at General Controls.

The considerable increase in engineering and research activities has been brought on largely by the company's preparation for the defense mobilization program and the need for an expanded civilian line.

The new structure will almost completely fill the company's 11-acre site at Glendale, where last summer a 55,000 sq. ft. addition to the main plant was completed.

Water Tube Boiler issues Catalog on oil Preheaters

AN ENLARGED CATALOG has been completed by The Water Tube Boiler and Tank Co., Inc., 140 West Root St., Chicago 9, Ill., including information on three new products: the Gas-Tu-Bo oil preheater, which heats the oil indirectly by gas and operates independently of the boiler; the Wa-Tu-Bo safety oil heater, constructed so that oil connot enter the boiler water if an oilheating tube fails and the type U-tube oil heater, for low cost installations.

Complete descriptions, including capacities and dimensional data, are shown for these units as well as for straight tube and S-U suction heaters. Free copies are available on request.

COMMERCIAL & INDUSTRIAL oilburning

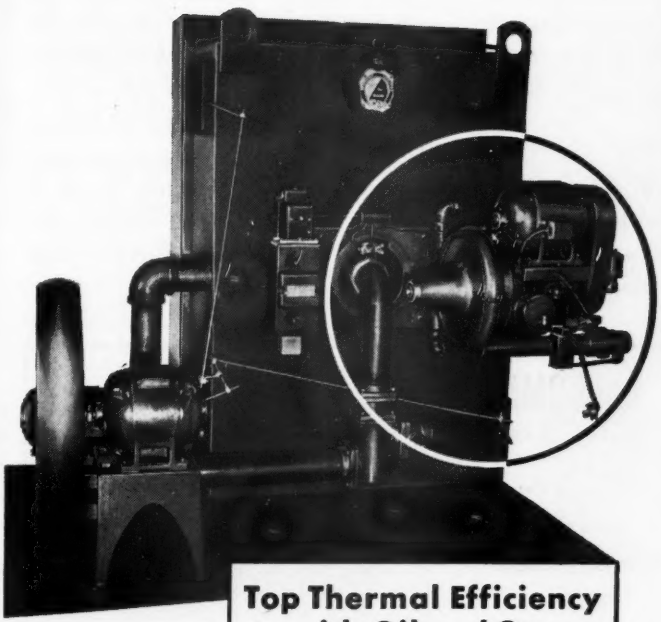
Defense stressed by Brown Division's Plans

AN INTENSIFIED program for meeting increasing defense requirements has been set up by the Brown Instruments Div., Minneapolis-Honeywell Regulator Co., Philadelphia, Pa., including coordination and expedition of engineering, production and delivery of highly sensitive industrial instruments.

Marshall B. Taft, assistant to Henry F. Dever, president of Brown Div., has been named manager of staff operation in addition to his other duties and James N. Redpath has been made spe-

NEW

PREFERRED *Combination Burner*



Top Thermal Efficiency with Oil *and* Gas

Preferred brings you a *new principle* in combination oil and gas burners. For the first time two individual burners are used—the well-known Preferred Horizontal Rotary Oil Burner and the new *dual, premix* type gas burner.

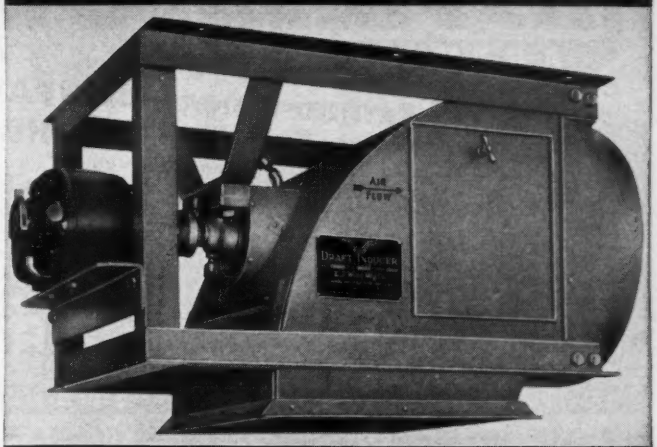
You get maximum thermal efficiency . . . no matter which fuel is used. There's no compromise . . . no sacrifice of efficiency that often results when one burner is used for both fuels.

Changeover from oil to gas, or vice versa, takes less than 20 minutes.

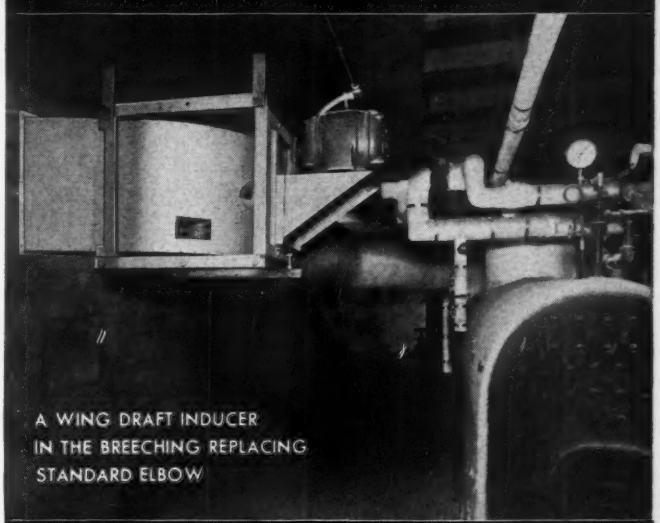
If you are not planning to see the show in Chicago, contact Preferred and get the detailed information on this new fuel-saving development. PR-204

PREFERRED UTILITIES MANUFACTURING CORPORATION
1860 BROADWAY, NEW YORK 23, N. Y.

THIS IS THE WING DRAFT INDUCER



THIS IS A TYPICAL INSTALLATION



A WING DRAFT INDUCER IN THE BREECHING REPLACING STANDARD ELBOW

THIS IS WHAT IT WILL DO

1. **Eliminate tall, unsightly and expensive stacks. All that is left is a vent on the discharge.**
2. **Cut fuel costs. Give higher CO_2's. Less excess air.**
3. **No smoke.**
4. **Permit increased capacities.**

THIS COUPON WILL BRING FULL DETAILS

L. J. Wing Mfg. Co.
66 Vreeland Mills Road
Linden, New Jersey

Please send literature and complete information on the Wing Draft Inducer.

Name.....

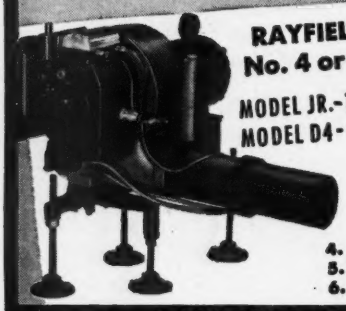
Firm.....

Address.....

City.....Zone.....State.....

RAYFIELD OIL BURNERS

AUTOMATIC



RAYFIELD BURNERS FOR No. 4 or No. 5 HEAVY OILS

MODEL JR.-1.00 to 5.00 GALS./HR.
MODEL D4-3.00 to 12.00 GALS./HR.

1. Fully Automatic
2. Self Cleaning Nozzle
3. Self Lubricating
4. All Electric Operation
5. Pays for itself from savings
6. Burns the cheaper No. 5 oil

PATENTED COMBUSTION HEAD OIL BURNERS

for CATALYTIC OILS TO #3 GRADE
2 MODELS -1.00 to 3.00 GALS./HR. CAPACITY

1. Amazing Economy 12 to 15% CO_2
2. Clean boilers with perfected combustion
3. Burns Catalytic oils easily
4. Quiet—No Vibration or pulsation
5. Cuts user's oil bills 14 to 36%
6. The ideal replacement oil burner

C. L. RAYFIELD COMPANY • 2010-18 SO. HALSTED ST. • CHICAGO 8, ILL.

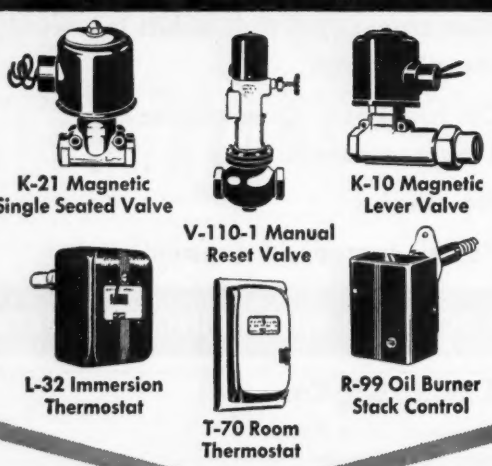
cial assistant to Mr. Dever, serving as liaison man between government and company activities. Henry M. Schmitt, industrial manager, is to devote full time to directing and coordinating sales in the company's expanded AEC program and Gordon H. Cole, Washington industrial manager, has been transferred to the government projects office to handle Navy, U. S. Coast Guard and Maritime operations.

An operations planning committee for handling policy and promoting continuing over-all operations has been named by Mr. Dever, consisting of: L. Morton Morley, vice-president of Honeywell and Brown; George M. Muschamp, vice-president in charge of engineering and Frank M. Rea, manager of manufacturing and Mr. Taft.

Hev-E-Oil Distributor holds service School

THE ANNUAL service and sales school, conducted by the Stuyvesant Oil Burner Co., New York, N. Y., distributor for Hev-E-Oil burners, was held recently at the company's office. Paul Mekay, president, 10 of his sales organization and 15 members of the service department heard Howard McCoy, chief engineer, Hev-E-Oil Burner Div., Cleaver-Brooks Co., Milwaukee, Wis., conduct talks and demonstrations on the mechanical and engineering aspects of the burner. Frank F. Wymbs, Jr., Hev-E-Oil Burner Distributors, New York, lectured on sales policies and potentials.

AUTOMATIC CONTROL for product or process



K-21 Magnetic Single Seated Valve
V-110-1 Manual Reset Valve
K-10 Magnetic Lever Valve
L-32 Immersion Thermostat
T-70 Room Thermostat
R-99 Oil Burner Stack Control

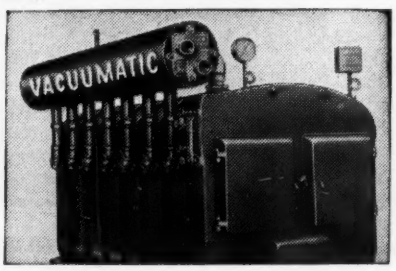
GENERAL CONTROLS
801 ALLEN AVENUE GLENDALE 1, CALIFORNIA

Manufacturers of Automatic Pressure, Temperature, Level and Flow Controls

FACTORY BRANCHES: Baltimore 5, Birmingham 3, Boston 16, Buffalo 3, Chicago 5, Cincinnati 2, Cleveland 15, Dallas 2, Denver 4, Detroit 21, Glendale 1, Houston 6, Indianapolis 4, Kansas City 2, Minneapolis 2, Newark 6, New York 17, Philadelphia 23, Pittsburgh 22, St. Louis 3, San Francisco 7, Seattle 1, Tulsa 6, Washington 6.
DISTRIBUTORS IN PRINCIPAL CITIES

VACUUMATIC
Reg. U. S. Pat. Off.

"The world's fastest water heater"



There is a reasonably priced Alstrom water heater immediately available to fill your needs—for every type and size of boiler.

Write today for free booklet "The Vacuumatic Story"

THE ALSTROM CORPORATION
P. O. Box 33, Dept. F 7 • New York 60, N. Y.

ESTIMATING MANUAL FOR HEATING AND PIPING SYSTEMS

The aim of this manual is to provide practical labor data to those who are concerned with estimating the cost of assembling, fabricating, installing the material required for the construction of heating and piping systems in the building industry.
Much of the material presented in the manual is based upon the experience of others engaged in the heating and piping industry, many of whom have expressed their knowledge of the subject through the medium of articles published in various trade papers and otherwise made available over a period of years. 112 pages. Contains diagrams and many tables. By Harry A. Erickson.

Please mail remittance with order. $3.

HEATING PUBLISHERS, Inc.
232 Madison Avenue New York 16, N. Y.

Burner installation Hints prepared by Cleveland Fuel

A 4-PAGE OILBURNING Manual of Information, issued by Cleveland Fuel Equipment Co., Cleveland 9, Ohio, has been prepared as a guide to the proper installation and operation of oilburning equipment. Among 20 selected headings discussed are such subjects as draft, excess air, boiler pressure and flue gas temperature.

The explanations, formulas and tables included in the manual are aimed primarily at installers of horizontal rotary cup and other types of industrial oilburners.

COMMERCIAL & INDUSTRIAL oilburning

Back page of the 4-page folder contains an explanation of the application and purpose of the Cleveland automatic sequence damper control.

R & I new Catalog on industrial Refractories

A NEW CATALOG, prepared by Refractory & Insulation Corp., New York 5, N. Y., tells the complete story of when and how to use refractory and insulating materials in industrial heat processing and heat generating equipment of all kinds.

The complete R & I line for this type of work is illustrated and described, accompanied by many illustrations of actual installations and progressive photographs to show the sequence of applying refractories for specific purposes.

Motor Controls covered in Allen-Bradley Catalog

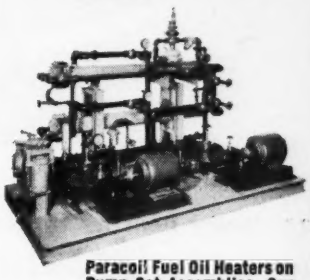
A NEW EDITION of its Handy Catalog on motor controls has been prepared by Allen-Bradley Co., Milwaukee, Wis. The illustrated catalog, in its fifth edition, contains 92 pages of condensed information.

It contains the usual quick functioning index page on A-B motor controls and a special A-C and D-C index along the margins of each page.

SINCE 1915 **Paracoil**
FUEL OIL HEATERS

Paracoil Tank Suction Fuel Oil Heater. For Preheating Oil in Storage.

Paracoil Tubular Type Fuel Oil Heater. For High Pressure Steam Service. (Also made in Self-Cleaning Models.)



Paracoil Fuel Oil Heaters on Pump Set Assemblies. Our Tubular and Straight Tube Types are used by all leading pump set fabricators.

Paracoil Vertical Type Tank Suction Heater. (For Buried Tank Installations.)

. . . have been the considered choice of the nation's leading oil burner installation contractors, burner manufacturers, and package boiler fabricators . . . because

- PARACOIL has been part and parcel of the oil burner industry from its inception — and is intimately acquainted with its needs!
- PARACOIL builds every size and type of fuel oil heater used in the industry—with capacities to 3000 GPM or more, for bulk storage operation. You can standardize on Paracoil without limitation!
- PARACOIL heaters are correctly built and conservatively rated. Maximum heat transfer—low pressure losses—long operating life at top output—and freedom from service shutdowns—are annual dividends with Paracoil Fuel Oil Heaters!
- PARACOIL prices are right. Mass production of standardized models is the answer! Heavy factory stocks permit quick delivery on catalogued models and sizes.

Your Heavy Oil Installations Deserve the Best Equipment . . . Put a Paracoil Fuel Oil Heater on your next job—and see the improvement!

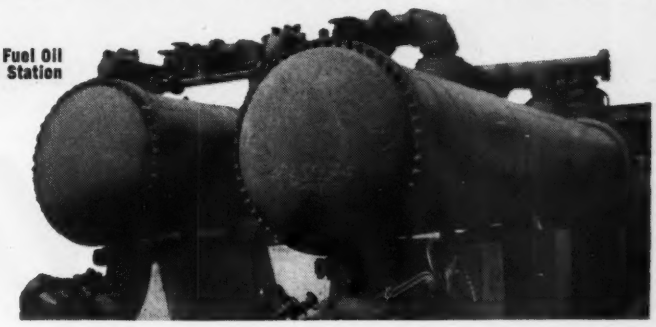
Write for Descriptive Bulletins and Prices on your letterhead!

AGENCIES IN PRINCIPAL CITIES

Paracoil "U" Tube Type Fuel Oil Heater. For Below Water Line Service.

DAVIS ENGINEERING
CORPORATION
1058 EAST GRAND STREET ELIZABETH 4, NEW JERSEY

Paracoil Line Type Fuel Oil Heater. For Bulk Station Operation.



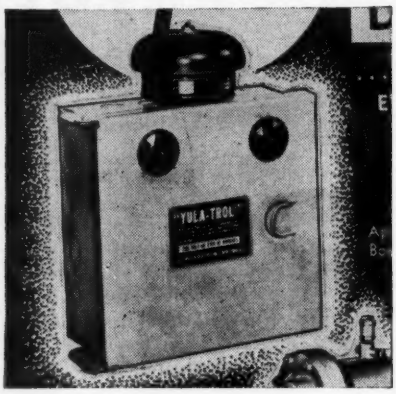
New Products

This issue contains the first Commercial and Industrial oilburning section, which is planned to be a regular monthly feature. For this reason, the New Products department contains more than the usual number of items on this type of equipment. Future issues, however, will present a more balanced picture and will continue to report new developments in domestic oilburners and accessory equipment.

Yula fueloil Detector and preheater Unit

THE YULA-TROL, new fueloil detector and preheater, has been introduced for use below the water line with No. 6 fueloil. It is a safety device intended for use with a Yula YT-"U" tube preheater and consists of the preheater with a coupling on top of its shell to receive the probe fitting and a special oil de-entrainment chamber on the bottom of the shell. Included also is a relay box, equipped with red and green lights and an alarm bell and a sensitive probe with special probe fittings.

Standard units are furnished for 220 volt, 60 cycle, single phase relay contacts, 10 amperes, with 110 volt,



60 cycle, single phase units available on special order.

Made by: Yula Water Heaters, Inc., 166 West 225th St., New York 23, N. Y.

McDonnell relief Valves for large hot water heating Boilers

ASSEMBLIES, consisting of two or three McDonnell Series 33 safety relief valves, have been developed for safeguarding larger hot water heating boilers from excessive pressure. The No. 33 relief valve meets requirements for all boilers having a gross output up to 242,900 Btu/hr., with the multiple assemblies designed for the still larger boilers.

No. 233, two-valve assembly, handles a total discharge capacity of 496,700 Btu/hr., ASME rating; No. 333, three-valve assembly, handles a total discharge capacity of 769,400 Btu/hr., ASME rating. The assemblies, consisting of the proper size valves and manifold, are packaged completely made up and ready to install.

Two-zone operation, providing low

VECO TROUBLE FREE Complete Combustion Testing

New-Revolutionary

CO_2 Analyzing Elements

(Sealed in Glass)

SINGLE METER — All readings on one dial Constant accuracy in service use.

3 IN 1 OPERATION

CO_2 INDICATOR
STACK THERMOMETER
DRAFT GAUGE

COMPACT PORTABLE Weighs only 7 pounds

Service Free — Simple to Operate
Economical to Buy
Ideal for testing to F.H.A. requirements

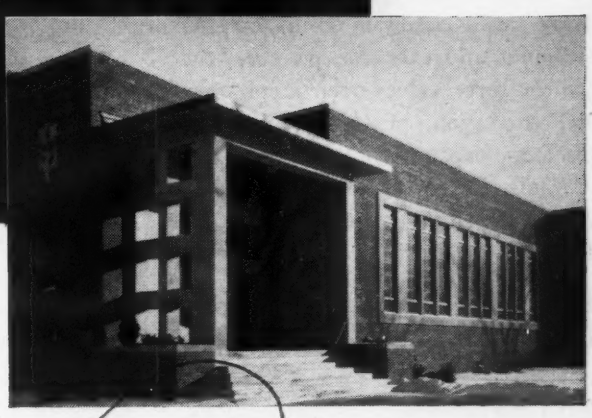
Victory ENGINEERING CORPORATION
744 Broad Street, Newark, New Jersey
"MANUFACTURERS OF THERMALLY SENSITIVE RESISTORS"

"I specify Jackson & Church

WARM AIR HEAT for

three important reasons"

EARL L. CONFER, ARCHITECT
14000 STRATHMOOR, DETROIT 27, MICH.



"For heating installations in religious buildings, I specify Jackson & Church Warm Air Heat.

"First of all, most J-C furnaces can be obtained as package units, and are easily adapted to the space restrictions usually found.

"Secondly, J-C equipment has been found dependable in service.

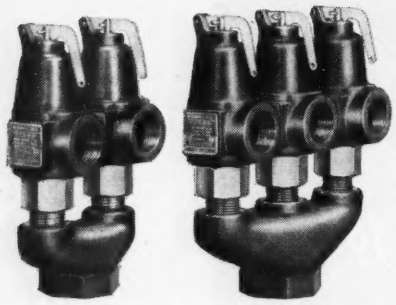
"Thirdly, the Jackson & Church firm supports a progressive effort in meeting new and special conditions as they develop in the work.

"Heating systems for these religious buildings range in size from 300,000 Btu to 2,000,000 Btu, requiring sectionalizing with three or more zones, automatically controlled. *The savings realized by specifying Warm Air Heat amount to many thousands of dollars!"*

. . . America's largest and most complete warm air heating line . . .

J-C JACKSON & CHURCH CO. · SAGINAW, MICHIGAN

WORK WELL DONE SINCE '81



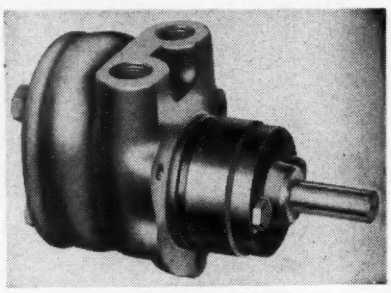
discharge rate for normal operation and high discharge rate for an emergency, is a design feature of the No. 33 valve. With the assemblies, when boiler pressure reaches 30 psi only one valve opens enough to take care of normal thermal expansion. If a "runaway" firing condition occurs, causing steaming and excessive pressure, the two or three valves open in progressive succession, providing full rated discharge capacity of the assembly.

Made by: McDonnell & Miller, 3500 N. Spaulding Ave., Chicago 18, Ill.

Roper Series K rotary pumps for use with industrial Burners

ROPER ROTARY PUMPS Series K are offered for a variety of applications, including models in ¾, 1½, 3 and 5 gpm sizes for fuel supply duty for industrial and large domestic oilburners. Offered in either packed box or mechanical seal designs, models can be supplied with or without relief valves.

There are only slight modifications in construction from the standard fitted Series K pumps of the same sizes. Oilburner pumps are identified by the



letters "R" or "RV" stamped on the face plate casting in addition to the regular Roper name plate. The complete Series K line incorporates models up to 50 gpm capacities for pressures up to 150 psi, operating with standard 1740 rpm motors.

Made by: George D. Roper Corp., Rockford, Ill.

Petro model GW is combination Gas-Oilburner

PETRO MODEL GW burners, designed for use with cold No. 5 fueloil or lighter and with 1000 Btu natural gas or 800 Btu mixed gas, are combination units currently available in a range of 5 sizes to furnish from 3,750,000 to 15 million Btu/hr., with larger sizes under development. The burners have been designed to facilitate a change from one fuel to the other without loss of time, loss of steam pressure and at no cost.

Four major time and money-saving features include: 60 second changeover from one fuel to the other; maximum combustion efficiency from either fuel; combustion of either fuel entirely independent of the other and no shutdown periods or adjustments during changeover.

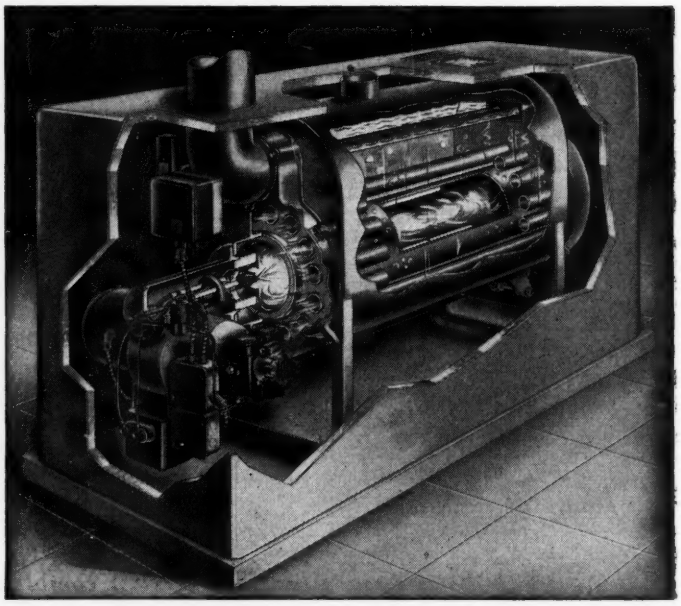
Model GW burners utilize the same firebox for each fuel since the size of

The Bethlehem Crusade-a-therm

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

SALES PROVE IT!

More and more home owners are asking for the Crusade-a-therm! WHY? Because this AUTOMATIC HEATING PLANT assures an automatic source of dependable clean heat and all the hot water they want, all year, at Low Cost! From the standpoint of appearance, the Bethlehem Crusade-a-therm leaves nothing to be desired. Designed to occupy a minimum of space, it will add real beauty to basement or recreation room. ASSURES BIGGER PROFITS FOR YOU, MR. DEALER!



BETHLEHEM FOUNDRY & MACHINE COMPANY
BETHLEHEM, PENNSYLVANIA

A few exclusive Bethlehem Crusade-a-therm territory Franchises are still available. Wire or write immediately for full information.

DON'T LET "SHORTAGES" BREED SUSPICION

Back up a good man with a good meter!

Your drivers and bulk plant men are *good* men, chosen and trained with care. It's an injustice to ask these men to work with "hit or miss" measuring devices. Untraceable shortages naturally reflect against them. For instance, underground leaks look the same as pilferage on your inventory. All your men are under a cloud of suspicion until you trace it to its source.

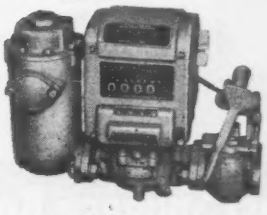
The only *sure* protection is the dependable, unquestionable accuracy of good meters — meters that prevent losses and make your figures add up.

When you're selecting meters, give extra attention to accuracy. They're all accurate when new, but be sure the type you pick will sustain accuracy over a long period without constant adjustments. Study the design features. Look for precision manufacture. Talk over their actual performance with men who know. We feel sure you'll decide on Red Seal Meters.

NEPTUNE METER COMPANY

50 West 50th Street • New York 20, N. Y.

There's a Red Seal Bulk Plant or Tank Truck meter for every use. See the improved Auto-Stop quantity control and Print-O-Meter ticket printing registers.



RED SEAL METERS

Branch Offices

ATLANTA • BOSTON • CHICAGO • DALLAS

DENVER • LOS ANGELES • LOUISVILLE

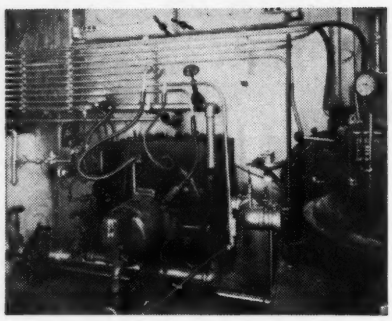
No. KANSAS CITY, MO. • PHILADELPHIA

PORTLAND, ORE. • SAN FRANCISCO

Canadian Factory: LONG BRANCH, ONT.

20-M

fuelOil & oilheat

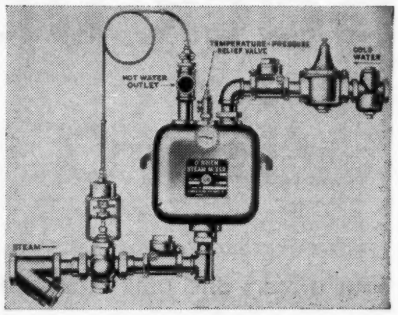


the flame and combustion characteristics of both are so similar. To change from oil to gas, a transfer switch is thrown and the gas supply valve opened. All necessary controls and auxiliary equipment are supplied.

Made by: Petroleum Heat and Power Co., Stamford, Conn.

O'Brien steam mixer water Heater is packaged Unit

THE O'BRIEN steam mixer water heater is a packaged unit, shipped complete with all controls and accessories. It is an all-bronze direct-diffusion water heater which mixes medium pressure steam, from 50 to 125 lbs., with cold or warm water to provide an instant and constant supply of hot water at controlled temperatures. Special single-seated pilot-operated valves may be furnished for applications using steam pressures in excess of 125 lbs.



An automatic temperature regulator controls the supply of steam to the unit, with water supply monitored by a pressure regulator, where needed. The steam and water are mixed in an all-bronze body casting, and the heated water discharged through an outlet at the top of the unit. Five sizes provide flows of 600, 1370, 2470, 3300 and 5500 gph, heating the water through a 100° temperature rise, with 100 lbs. steam.

A combination safety unit also is offered for furnishing hot water at two controlled temperatures and mixers for small-capacity service, providing flows of 3, 6 and 9 gpm with 40 lbs. steam pressure, are available.

Made by: O'Brien Steam Specialty Co., Inc., 205 Harrison St., Syracuse 2, N. Y.

Cleveland model SC-B holds Steam at constant Pressure

CLEVELAND MODEL SC-B steam control is a master regulator, installed with a "Lectricarm" drive unit, for use wherever it is desired to hold steam pressure at constant, prescribed levels. It is designed for application to any type of stoker, gas or oilfired boiler and, in addition to maintaining constant steam pressure, eliminates overfiring by modulating constantly the correct ratio of fuel and air supply. The control prevents boiler and stack heat losses by eliminating stop-and-start firing.

The regulator's pressure controlling

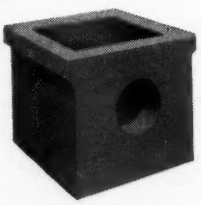
HERE'S how KOLB Engineering Helped . . .

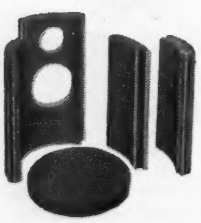
WATERFILM BOILERS
Jersey City 7, N. J.

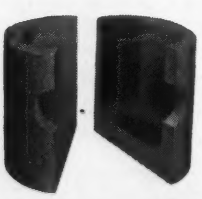
Dear Mr. Kolb:
The Kolb Kast chambers were carefully chosen as a component part of the Venko quality packaged unit because of the excellent combustion results obtained from their use.

Very truly yours,
WATERFILM BOILERS, INC.

A. R. Hanson







HERE'S how we can help YOU too:

Give us your toughest combustion chamber problem. Our engineers will show you how we can solve it. *Write today to* —

KOLB REFRACTORIES COMPANY
Meadow & Jackson Sts.
Philadelphia, Penna.

KolbKast Shapes • KolbKast Insulated Shapes

3 *New Units* IN THE

EVER-EXPANDING ARMSTRONG OIL FURNACE LINE

HORIZONTAL • GRAVITY • SMALL HI-BOY—ALL GUN-FIRED

These three new Armstrong units are all fired by the new Armstrong D4 oil burner, developed especially for efficient operation at low firing rates. All have the Armstrong oil-designed heating element; all are beautifully finished in two-tone blue baked enamel.

A new horizontal! The L8-80, with 80,000 BTU bonnet output. Assembled at the factory—you simply install the combustion chamber and the burner. Filter frame provided for cold air return to front, rear or end of blower compartment.

A new hi-boy! The L6-80; 80,000 BTU output at the bonnet. Factory assembled. Ideal for utility room or closet installation. Cold air return from bottom or either side; filter racks in all three places. Blower slides forward for easy service.

A new gravity! The L2-100, rated at 100,000 BTU at the bonnet, and equally efficient with a ¾ GPH firing rate for 75,000 BTU. Excellent for the compact home. Efficient. Easy to install.

Remember, these are just the *new* members of the Armstrong gun-fired oil furnace line, which includes units of practically all sizes and types. Armstrong offers a complete selection of gas and coal furnaces, too.

See your nearby Armstrong jobber, or write for complete details on any Armstrong unit.

Wherever you are

OU'RE ON THE ARMSTRONG M

TRATE

Armstrong's two huge plants serve both sides of the continent quickly, economically. A warehousing distributor, with a complete Armstrong inventory, is within a stone's throw of everywhere. Wherever you are, Armstrong's distribution system is set up to serve you. It's better, quicker, more profitable . . . for you.

The man who knows furnaces knows Armstrong

ARMSTRONG
FURNACE COMPANY

COLUMBUS, OHIO — DES MOINES, IOWA

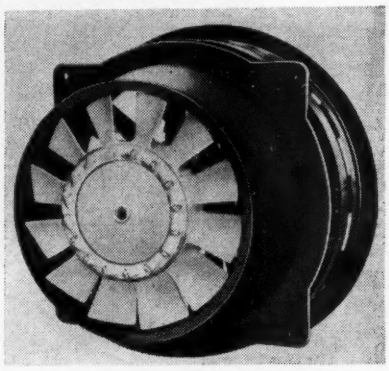
Please address Dept. 70 at the plant nearest you.

unit consists of a bellows, floating contacts, compensating motor and pressure adjusting mechanism. Additional features are a factory-sealed plug-in relay unit to control the position of the "Lectricarm" to correspond with pressure changes, signal lights to indicate when drive unit is moving toward high or low fire, a 4-position selector switch and steel cabinet with hinged cover. Wiring connections are simple with standard units available for 110 or 220 volt, 60 cycle current. A selection of pressure range requirements is offered.

Made by: Cleveland Fuel Equipment Co., 7316 Associate Ave., Cleveland 9, Ohio.

Coppus industrial Burner is steam atomizing Type

THE COPPUS-DENNIS FANMIX oilburner is a steam atomizing type, available in five sizes, with ratings from 8 to 34 million Btu/hr. Any grade of fueloil can be used from No. 2 to 6 with a viscosity of about 400 SSU. Particles of oil, which have been atomized by high pressure steam, are discharged through rapidly rotating orifices and thrown outward into a cylindrical sleeve of air, and this air-fuel mixture is projected into the furnace by a fan, rotated by the jet reaction of the steam-atomized oil. Such violent mechanical mixing of the atomized oil and air has



been designed to produce rapid and complete combustion and a very short flame pattern, minimizing flame impingement and delayed combustion.

Design further provides that the fan's power requirement coincides with the power developed from the reaction force of the steam-atomized oil and if the amount of fuel is increased, the speed of the fan increases to automatically maintain the proper fuel-air ratio. Features include the mounting of atomizer tips on the fan hub close to the blades so that they are air cooled to a point well below coking temperature.

Made by: Coppus Engineering Corp., Worcester 2, Mass.

Electro Machines adds to Line Of NEMA type C face Mountings

ELECTRO MACHINES has completed a line of NEMA type C face mountings for the standardized 42, 56 and 66 fractional hp frame series. Front views shown illustrate the streamlined, built-in conduit box which has been carried through the design of all three sizes.

Conduit openings can be furnished with a 7/8" plain hole or 1/2" pipe taps, with gaskets under the cover plates available on request. Bolted-on, removable bases are available on all three frame sizes, which feature conduit

Eddington
Oil Burner
Nozzles
Check your Eddington needs here:
FILTERS
NOZZLES
VALVES
STABILIZERS & AIR CONES
STRAINERS
ADAPTORS
INSPECTION MIRRORS
SERVICEMAN'S NOZZLE KITS
. . . every one factory-tested for your greater convenience and profit!
Yes, for your greater convenience and profit! When you install an Eddington Nozzle, you know it is right for spray angle, atomization, and rated capacity. What's more — with a large-capacity Monel strainer in each nozzle to keep orifice and slots from plugging — cleaning is a rare event.
Timely tip: Uncertain period ahead. Eddington oil burner products more important than ever for they keep customer-service interruptions at an absolute minimum.
Want information on any of the items listed? Just drop us a postal; you'll get a quick reply.
EDDINGTON METAL SPECIALTY COMPANY
1050 Czarnecki Street, Eddington, Pa.

PECORA
BRAND

ASBESTOS
Retort Cement

Sets A Standard of Excellence For The Heating Industry

Here is a cement, developed by Pecora, to specifically meet the exacting requirements of installations that must cope with wide temperature extremes... a practically indestructible binding material that is absolutely fire-proof... resistant to acids and corrosion... burns hard without cracking and is completely odorless... non-porous and not subject to air leakage. Pecora Asbestos Retort Cement is the ideal material for mounting furnaces, heaters, stoves... for cementing joints exposed to intense heat. Iron will melt where this cement will stand!

A Superior Product Designed For Superior Workmanship

PECORA
PAINT COMPANY, INC.

ALSO: PECORA FURNACE CEMENT
A heat-resistant cement for sealing or joining of parts subjected to high temperatures.

PECORA Fibroid STOVE PUTTY
A durable, dependable sealing compound that will maintain an air-tight seal despite vibration.

315 SEDGLEY AVE., PHILADELPHIA 40, PA.
Manufacturers of Caulking Compounds, Roof Coatings, Maintenance Finishes, Industrial Enamels
SPECIFY PECORA AND YOU SPECIFY QUALITY

Koven
WATERFILM
the fastest steaming boiler on the market!

Quick Heat at Low Cost

Think what that means to your customers . . . quick heat . . . less fuel consumption! The modern scientific improvements incorporated in the patented construction of Waterfilm Boilers provide comfort and trouble-free long life operation. Handsomely jacketed, Waterfilm Boilers are available in sizes suitable for heating homes, apartment houses and industrial plants. For large installations, the sectional Waterfilm Boiler is the only boiler that can be taken through a two-foot door. 500-17,850 E.D.R. For small homes, we recommend the Venko tuck-away boiler. NATIONALLY ADVERTISED. Write today for free literature and newspaper mats.

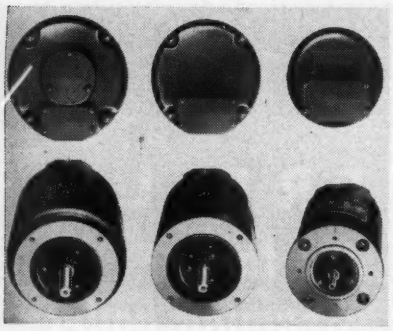
THE HEART OF THE WATERFILM BOILER IS THE ZIG-ZAG SHAPED WATER TUBE

- Patented Construction
- Quick-Steaming
- Retards Accumulation of Soot
- Economical
- Rugged Construction
- Easily Baptized

WATERFILM BOILERS, Inc.
A Division of L. O. Koven & Bro., Inc.
154 Ogden Ave., Jersey City 7, N. J.
Plants: Jersey City, N. J. Dover, N. J.

EVEN ROOM TEMPERATURE THROUGHOUT THE HOUSE!

FOR AUTOMATIC FIRING WITH OIL, STOKER OR GAS



boxes specially designed to facilitate making connections for 9-lead, dual voltage motors.

Made by: Electro Machines, Inc., Cedarburg, Wis.

Burling Controls operate on expansion of Solids

BURLING electrical controls operate on differential expansion of solids and can be supplied for temperatures from minus 200° to as high as 1400° F. with standard tubes, 1600° to 1800° F. with special tubes. Operating differential may vary from plus or minus ¼° F. to plus or minus 25° F. The instruments are recommended for a variety of applications including regulation of heating or cooling equipment, for use in industrial ovens and furnaces, for split load control, two or three speed control of auxiliary motors and similar arrangements.

In operation, the difference in expansion of two members is multiplied by a lever which operates a snap-action Micro-Switch. A high expansion member is an outer tube, the low expansion member a tube or rod is on the inside. The operating differential varies inversely with the length of the tube exposed to the temperature.

All Burling instruments are built to customers' specifications, but instrument heads and tubes are interchangeable for a variety of combinations.

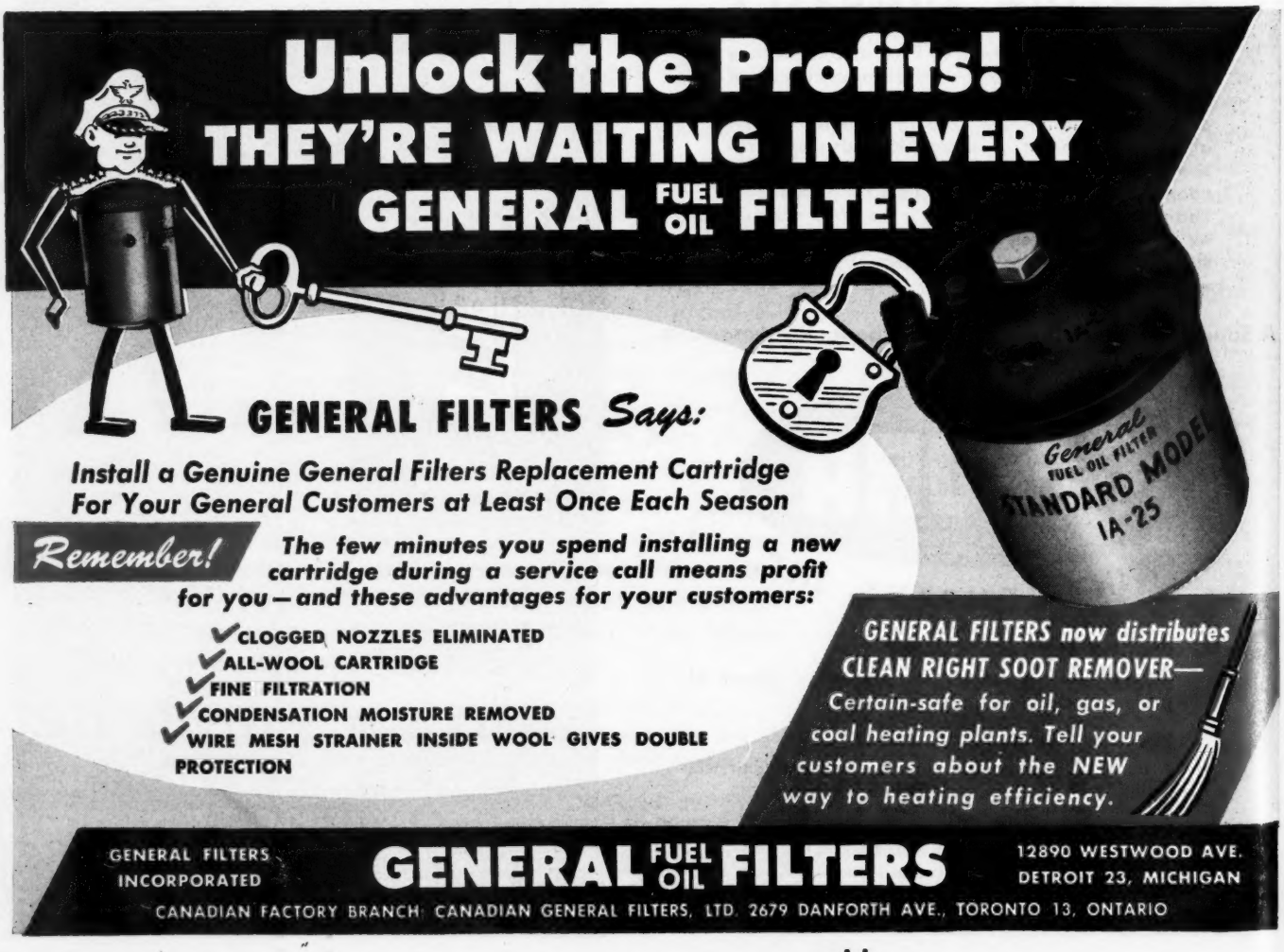
The company also offers a temperature control valve, which controls the temperature of equipment by regulating the flow of fuel or cooling medium, provides high or low temperature safety cut-off and high or low temperature safety cut-off for air-operated valves. It has a temperature range from minus 300° F. to 1800° F. and may be furnished with temperature setting inside or outside. Also models are available for closing or opening valves on rise in temperature.

Made by: Burling Instrument Co., 5 Vose Ave., South Orange, N. J.

Dowtherm heat transfer Units are Factory-assembled

A STANDARD LINE of electrically heated Dowtherm heat transfer units have been developed with capacities ranging from 100,000 to 500,000 Btu/hr. The units have a temperature range to about 750° F. using Dowtherm as a liquid or vapor medium and, where desired, other heat transfer fluids may be utilized.

The heaters are supplied complete with instruments, piping, insulation and other accessories so that they are ready for immediate use upon delivery. When specified, the entire unit is base-mounted at the factory, or supplied


Unlock the Profits!
THEY'RE WAITING IN EVERY
GENERAL FUEL OIL FILTER
GENERAL FILTERS Says:
Install a Genuine General Filters Replacement Cartridge
For Your General Customers at Least Once Each Season
Remember!
The few minutes you spend installing a new cartridge during a service call means profit for you—and these advantages for your customers:
✔CLOGGED NOZZLES ELIMINATED
✔ALL-WOOL CARTRIDGE
✔FINE FILTRATION
✔CONDENSATION MOISTURE REMOVED
✔WIRE MESH STRAINER INSIDE WOOL GIVES DOUBLE PROTECTION
General FUEL OIL FILTER
STANDARD MODEL
IA-25
GENERAL FILTERS now distributes
CLEAN RIGHT SOOT REMOVER—
Certain-safe for oil, gas, or coal heating plants. Tell your customers about the NEW way to heating efficiency.
GENERAL FILTERS INCORPORATED
GENERAL FUEL OIL FILTERS
12890 WESTWOOD AVE.
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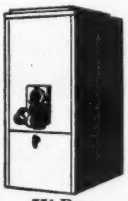
CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD. 2679 DANFORTH AVE., TORONTO 13, ONTARIO

AGAIN in '51

MORE FURNACE MANUFACTURERS THAN EVER BEFORE WILL USE THE KRESNO-STAMM *P.A.G. *Ball Flame* BURNER

This year more manufacturers than ever before—at least 59—will use the Kresno-Stamm P.A.G. Ball Flame Burner. For every application they have overwhelmingly accepted the Ball Flame as the best and most versatile unit.



Hi-Boy

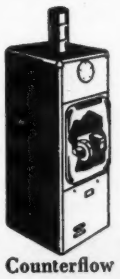
HI-BOY

More manufacturers of Hi-Boy furnaces will use the Ball Flame Burner.

Gravity

GRAVITY

More manufacturers of Gravity furnaces will use the Ball Flame Burner.



Counterflow

COUNTERFLOW

More manufacturers of Counterflow furnaces will use the Ball Flame Burner.

Utility

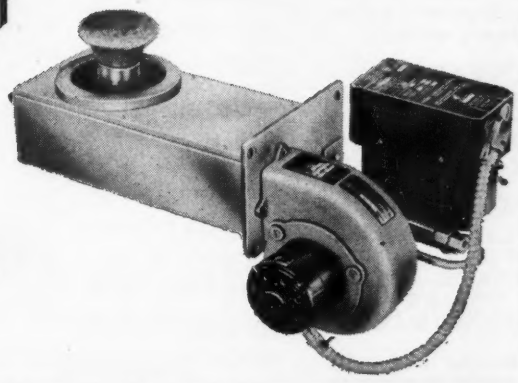
UTILITY

More manufacturers of Utility furnaces will use the Ball Flame Burner.

More manufacturers choose the versatile Kresno-Stamm Ball Flame because

- ✓ It costs less than a gun type burner.
- ✓ It operates more efficiently at capacities up to 1 G.P.H.
- ✓ It costs less to install.
- ✓ It requires no combustion chamber.
- ✓ It requires no stack relay.
- ✓ It is a profitable addition to their line of gas burners and gun type oil burners.

The Kresno-Stamm P.A.G. Ball Flame is your best bet, too. Write today for specifications.



*Pressurized Air Gravity

KRESNO-STAMM MFG. CO. (America) Inc.
PALISADES PARK, N. J.
Canadian Affiliate: Kresno Stamm Mfg. Co. (Canada) Ltd.
1452 Drummond Street • Montreal, P. Q.

Lamneck invites comparison

the best costs less..

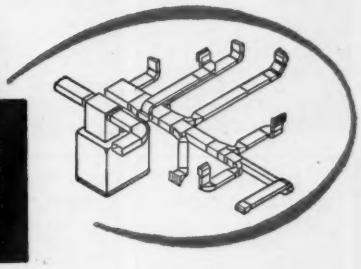
LAMNECK
4 Piece ADJUSTABLE ELBOW
24 Ga. 6 Inch 73¢
Net to dealer at his jobbers

By every standard of measure, Lamneck will stand comparison. Elbows are constructed from Premium Quality Galvanized Steel—*tested* for adjustability before ever leaving the factory—*designed* so that the small end is tapered to form a snug air tight connection without loss of effective area.

Yes, all we ask is that before you buy, compare Lamneck with any other fittings in price, quality and design. *(Due to critical shortages of steel, jobber's stocks may be low on some items at this time.)*

LAMNECK MAKES A COMPLETE LINE OF FURNACE PIPE & FITTINGS

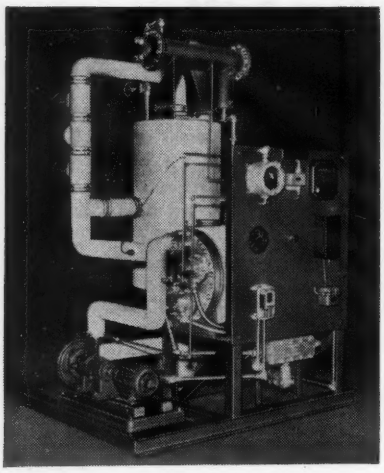
Simplenic SYSTEM
T.M.
Lamneck
FURNACE PIPE & FITTINGS



Another Great C&L Product

Write for free comprehensive Lamneck Catalog and the industry's latest book "Standardized Fittings."

CLAYTON & LAMBERT MFG. CO.
Louisville 10, Kentucky



with essential equipment for mounting on the job. A special heating element is included to eliminate thermal breakdown or coking trouble.

Made by: Struthers Wells Corp., Warren, Pa.

Ess smoke Periscope and furnace Indicator

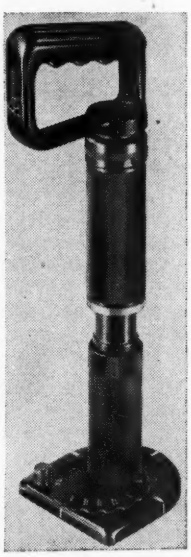
BULLETIN 5101 has been prepared on Ess Wyd-Angle smoke periscopes and Cat's-Eye furnace indicators. The smoke periscopes for use on industrial boilers consist of a light unit, affixed to one side of the flue uptake; a reflector unit, affixed on the opposite side and a 90° vision angle viewing box. The gases pass through the path of light cutting off light in proportion to the density of the smoke, with the path of light periscope-reflected to the vision box. The engineer thus is enabled to see the exact quality of the smoke or haze while in position to make adjustments.

Two types of furnace indicators are furnished, type G with a Pyrex glass lens and equipped with inner ridges which cause a flicker of the image when fires are active and Type O with a heat-resisting glass lens and a larger opening permitting visual observation through a clear central portion. The indicators are placed opposite a combustion flame so that the flames may be examined from any angle.

Made by: Ess Specialty Corp., 96 South Washington Ave., Bergenfield, N. J.

Ramset Tool drives Fasteners with Powder

RAMSET tools are offered to drive fasteners into steel, concrete or other materials. They use a powder charge for the driving force and, depending upon the type of material or fastener being used, imbed the fastener with either a tap or turn operation. The tools are especially useful in heating and air conditioning work for fastening anchor pipe hangings, anchor straps for air conditioning ducts, securing fans, blowers, unit heaters and circulators where it is necessary to fasten the equipment to steel, concrete or similar surfaces.



To operate the tool, the barrel is unscrewed, the fastener and specially

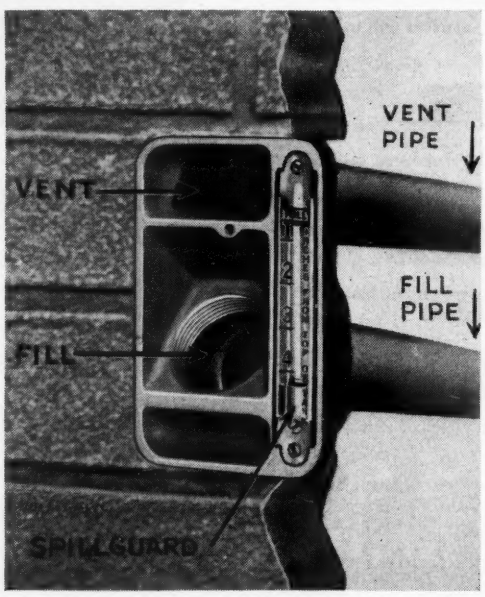
At Last **FILL WITHOUT SPILL—TO LAST GILL**

"PHILLY" FILL-VENT BOX with SPILL GUARD

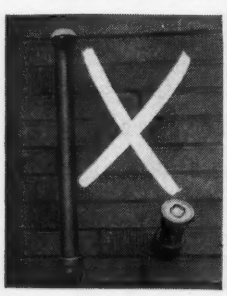
IN ONE COMPACT UNIT

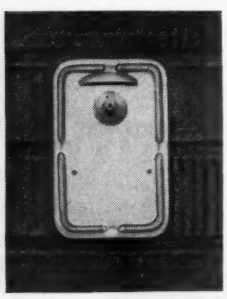
Fill to the *top* without spilling a *drop*, because SPILL GUARD shows the driver the height of oil in tank. It starts to register the exact contents, the instant the oil reaches the last four inches from top of tank. The SPILL GUARD is an unfailing hydrostatic gauge, right in front of his eyes. DELIVERS FROM 15 to 45 MORE GALLONS PER 275 GALLON TANK, PER TRIP. Save one or more trips per customer per season. Accepted by oil burner and oil companies for over 14 years — over 100,000 Fill-Vent Boxes in use.

(Patented and other patents pending)



"Philly" FILL-VENT BOX and SPILL GUARD with cover removed. See lower right photo for unit in closed position.





COSTS LESS

By combining fill cap, vent cap and warning gauge into one unit you SAVE ON MATERIALS AND INSTALLATION TIME. The simplified hydrostatic gauge costs no more than a whistle.

IMPROVE APPEARANCE

SETS FLUSH. COMPACT. RUST PROOF. TAMPER-PROOF, COVER LOCKS TIGHT WITH ALLEN KEY.

OTHER FEATURES

NO NOISE, FILLS FASTER. READ IT IN DARK, ALWAYS ACCURATE, POSITIVE. EASY TO INSTALL. And we repeat—LOW IN COST.

ORDINARY INSTALLATION:
1. FILLCAP
2. 45 DEGREE ELL
3. NIPPLE
4. 90 DEGREE ELL
5. VENT CAP
6. ALARM
7. PAINTING
8. LABOR ON ABOVE

"PHILLY" INSTALLATION:
1. FILL - VENT BOX and SPILL GUARD (Complete Unit)
2. APPROXIMATELY 1/3 OF USUAL LABOR

— and that's all!

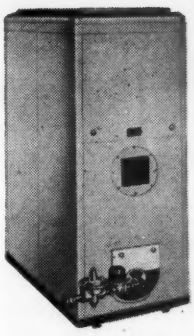
PLASTIC APPLIANCE COMPANY
5311 Westminster Avenue
PHILADELPHIA 31, PA.

SOLD THRU SID HARVEY INC. VALLEY STREAM, NEW YORK ALL BRANCHES

ATTACH TO LETTERHEAD AND MAIL

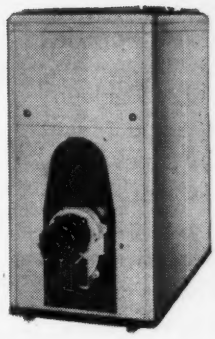
PLASTIC APPLIANCE COMPANY:
Send information and prices on the "Philly" FILL-VENT BOX and SPILL GUARD.

Name .....
Position .....
Type Business .....



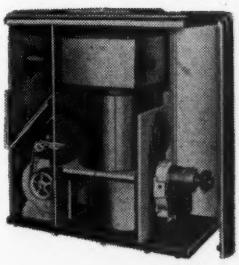
No. OG-64 with Gun Oil Burner 75,000 B.T.U. at Bonnet

No. G-100 with Gas Burner 100,000 B.T.U. Input

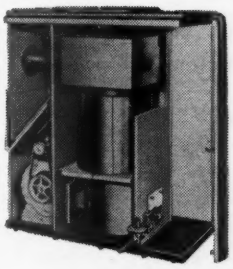


GRAVITY FURNACE
Gas Fired or Oil Fired

ANNOUNCING THE NEWEST Luxaire® UNITS Equally Efficient WITH GAS or OIL



No. 0-72 with Gun Oil Burner 85,000 B.T.U. at Bonnet



No. A-115 with Gas Burner 115,000 B.T.U. Input

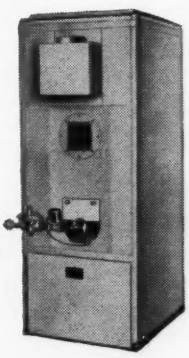
BASEMENT AIR CONDITIONING UNIT—Gas Fired or Oil Fired

These units also available without vestibule and door.

Install the Unit NOW
Install the type of Burner Later
or Convert Anytime in the Future

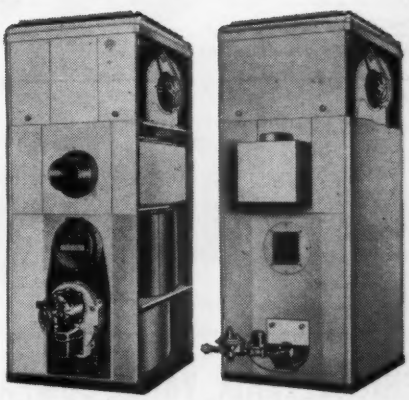
No. OH-83-E with Gun Oil Burner 82,500 B.T.U. at Bonnet

No. H-110-E with Gas Burner 110,000 B.T.U. Input



UTILITY AIR CONDITIONING UNIT—Gas Fired or Oil Fired

COUNTERFLOW UNIT
Gas Fired or Oil Fired for Perimeter Heating or Crawl Space Heating



No. OHC-83-E with Gun Oil Burner 82,500 B.T.U. at Discharge Outlet

No. HC-110-E with Gas Burner 110,000 B.T.U. at Discharge Outlet

THE C. A. OLSEN MANUFACTURING COMPANY • • ELYRIA, OHIO

Luxaire® HEATING & AIR CONDITIONING UNITS

fuelfoil oilheat

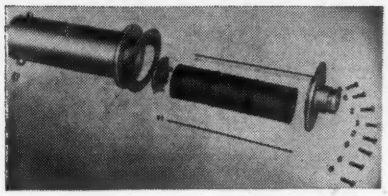
loaded powder charge is slipped into place and the barrel re-inserted and tightened. The end of the tool next is positioned by quadrant marks on the tool's safety shield against the point where the fastener is to be driven. When the safety controls are released the expanding gases of the exploding charge ram the fastener into place.

Seventy-six styles and sizes of fasteners are available.

Made by: Ramset Fasteners, Inc., 12117 Berea Road, Cleveland 11, Ohio.

Coote Micronic Filters for truck Tank, hose Nozzle

COOTE micronic filters are available in a truck tank model, TT-3, and a hose nozzle model, AT-2. The truck tank model, illustrated in an exploded view, is offered in 35 and 50 gpm sizes for installation at the hose reel inlet or in any straight run of discharge pipe. It can be installed also between two unions, victualic couplings or flange connections. Complete conversion kits, including the filter, victualic nipples and



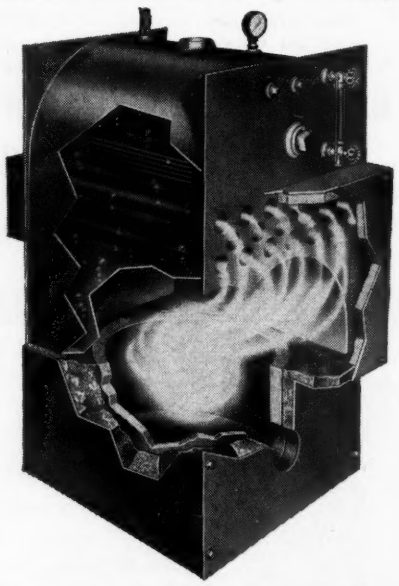
coupling or flanges can be supplied.

The hose nozzle unit, also available in 35 and 50 gpm sizes, is screwed in between the nozzle and hose coupling and, like the truck tank units, is constructed of aluminum for lightness. Filtering in both types is accomplished by micronic elements. Larger units can be furnished in capacities from 75 to 200 gpm, available with screwed or flange connections in 2", 2½" and 3" sizes.

Made by: Chas. W. M. Coote Co., Inc., 336 Gregory Ave., West Orange, N. J.

Portmar Windsor Boilers for automatic Firing

PORTMAR WINDSOR series boilers are available for gas or oilfiring, steam models from 400 to 900 sq. ft. ratings,



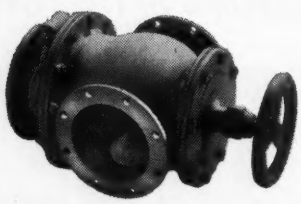
hot water models from 640 to 1440 sq. ft. Four models are offered, with net ratings of 96,000, 132,000, 168,000 and 216,000 Btu capacity, oilfiring rates of 1.25 to 1.5, 1.5 to 1.75, 2.0 and 2.5 gph, respectively. Tankless coils of 3, 3½, 4 and 4½ gpm capacities are available.

These steel boilers are equipped with jackets and are additions to other Portmar vertical series, rated from 320 to 1100 sq. ft. steam, 510 to 1760 water.

Made by: Portmar Boiler Co., Inc., 193—7th St., Brooklyn 15, N. Y.

REVOLUTIONARY 4" AND 6" TRUCK TANK VALVES

OFFER WEIGHT SAVING OF AS MUCH AS 50 TO 100 LBS. PER VALVE



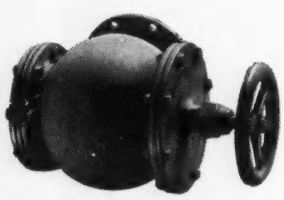
COMBINATION CROSS AND CHECK VALVES
Standard 4" valve weighs only 29½ pounds!

● New, exclusive, lightweight pressed steel bodies also give added strength, greater efficiency

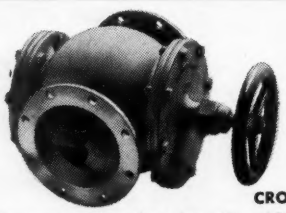
Increase pipe sizes on your tank trucks to speed up unloading time, and thus cut costs. For utmost economy and efficiency, use these new Philadelphia Valve Co. valves. They're durable, resist abuse, and have been tested to pressures of 400 lb. per sq. in. without leakage.

Their secret is their revolutionary construction. They are made with our exclusive, patented, lightweight pressed steel bodies, which eliminate heavy castings and at the same time give added strength. An increased number of bolts keeps the lightweight, round flanges securely tight; these valves won't leak even at high pressures. The 4" valves have eight ⅜" S.A.E. bolts; the 6" valves twelve ⅜" bolts.

Send today for catalog #170, which illustrates and describes our complete line.



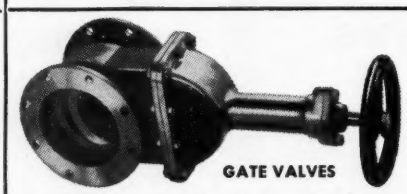
90° ANGLE VALVES
6" valve weighs only 35 pounds! Made in both 4" and 6" sizes.



CROSS VALVES
Same as angle valves, but with additional outlet.

PHILADELPHIA VALVE COMPANY
3413 Aramingo Avenue
Philadelphia 34, Pa.

PACIFIC COAST DISTRIBUTORS:
Oil Marketing Equipment Co., 325 Fremont St., San Francisco 5, Cal.
Howard Supply Co , 5125 Santa Fe Avenue, Los Angeles 11, Cal.



GATE VALVES
4" and 6" sizes in either heat-treated aluminum, bronze, or galvanized malleable iron. 4" aluminum valve weighs only 16 pounds; 6" only 39 pounds.

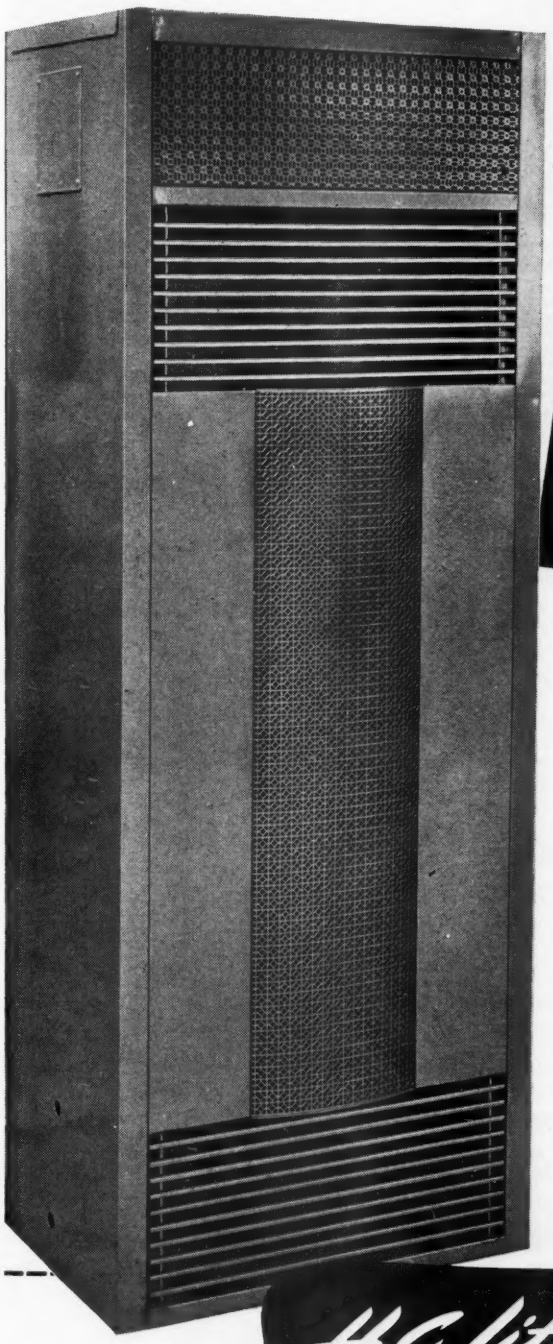
more profit selling to small home owners!

When you sell H. C. Little Oil Wall Furnaces you sell the ONLY oil wall furnace with a self-lighting, 100% automatic low-voltage ignition system! This means you'll make more sales because home owners everywhere quickly appreciate a heating unit that actually lights itself and saves up to 30% of usual fuel costs.

more profit selling to building contractors!

You can offer H. C. Little Wall Furnaces at attractive competitive prices. Large-tract contractors specify H. C. Little heating units because they provide self-lighting, uniform whole-house heat at lower first cost (and lower cost operation). Sell H. C. Little Oil Wall Furnaces and get your share of this big-volume business.

NO SHEET METAL DUCTS NEEDED!



more profit opportunity

when you sell H.C.Little Oil Wall Furnaces!

That's because ONLY H.C. Little Oil Wall Furnaces have such important sales advantages as:

SELF-LIGHTING OPERATION! *patented*, self-lighting, 100% automatic low-voltage electric ignition system has no pilot light to waste fuel!

LOW-TEMPERATURE CARBURETION! *patented* H. C. Little Oil Burner operates on an exclusive Progressive Low-Temperature Carburetion Principle which leaves no soot or hard carbon deposits!

CATALYTIC HEAT CONTROL! *patented* H. C. Little catalytic heat control permits operation on low-cost catalytic oils!

SILENT OPERATION! *patented* H.C. Little construction has no moving parts to vibrate, make noise or interfere with radio or television reception!

and many, many more sales-clinching features

H. C. Little Oil Wall Furnace No. 85 (illus.); 65,000 BTU per hour heat output; 79″x 20″x 30″; warm air discharge and cold air intake grilles on both sides of unit; radiant panel on front of furnace; installed either side of chimney or vented by patent flue at top

H. C. Little Oil Wall Furnace No. 60 (not illus.); 42,000 BTU per hour heat output; 51⅜″x 17″x 29″; warm air discharge and cold air intake grilles on both sides of unit; installed either side of chimney or vented by patent flue

For further details about these H. C. Little Oil Wall Furnaces write today to DEPT. 7

H. C. Little Burner Company

SAN RAFAEL, CALIF.

DEALER INQUIRIES INVITED

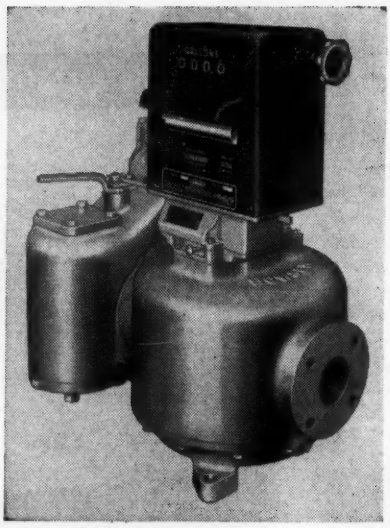
Factory Representatives:

Baltimore, Md.
Belmont, Mass.
Boise, Idaho
Chicago, Ill.
Columbus, Ga.
Detroit Lakes, Minn.
Fayetteville, N. Car.
Newark, N.J.
Portland, Ore.
Prescott, Ariz.
Reno, Nev.
St. Louis, Mo.
St. Petersburg, Fla.
Salt Lake City, Utah
Seattle, Wash.

Bowser Meter incorporates air Separator, Strainer

A COMPACT, one-package meter with integral air separator and strainer has been announced, with a 70 gpm capacity, 125 psi maximum working pressure, suitable for use on tank trucks and loading racks. It handles many liquids, including kerosene and distillate oil. A totalizer and large-figure counter are standard, with predetermined automatic shut-off and ticket printer also available.

The new unit uses the positive volumetric measuring principle common to all Bowser Xacto meters, with leather-sealed and self-lubricated pistons. Connections are 2", flanged, with the built-in strainer featuring ease of cleaning. An automatic shut-off valve is provided to cut off liquid flow at the meter inlet in the event of power failure.

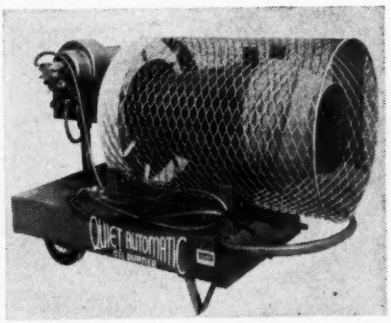


Made by: Bowser, Inc., 1302 E. Creighton, Fort Wayne 2, Ind.

Quiet Automatic adds third portable Heater to its Line

THE LATEST oilfired, portable heater added to the Quiet Automatic line is a radiant type space heater. Announced earlier this year have been two larger units, one for hot air, the other for steam heat. The new unit is described as ideal for outside or inside construction work, space heating, drying hay or plaster and similar applications.

Heat is provided by both convection and by radiation, with air forced through the gun of the oilburner by a motor-driven axial blower. The gun burner is fitted with a Catomic adjustable turbulator. As the air leaves the gun it is split so that part of it moves over the outside of the unit's stainless steel combustion chamber and the rest of the air is used at the nozzle for combustion.

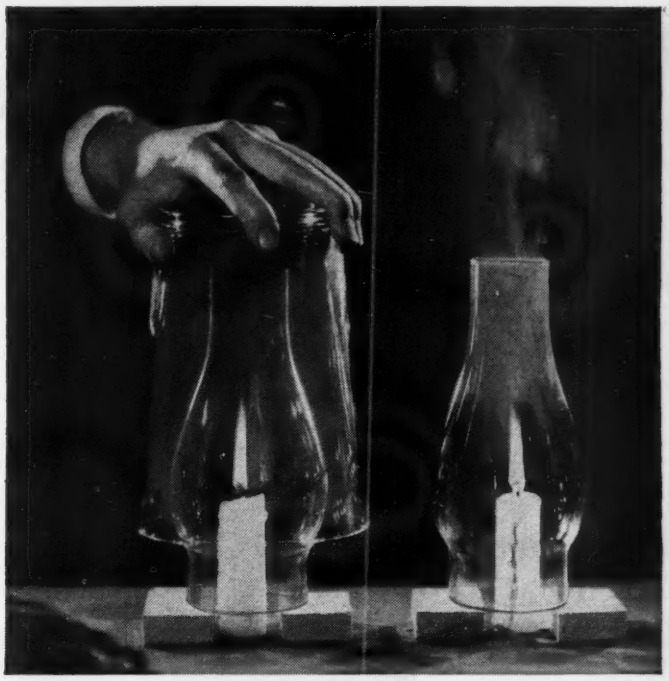


No. 2 fueloil, supplied from an ordinary drum storage tank, is used to fire the heater, which is rated at 200,000 Btu/hr. A thermostat at the end of an extension wire provides automatic control, with connection to a 110 volt power line putting the unit into operation. It measures 4 ft. x 2 ft. x 3 ft. high, mounted on a rubber tired base.

Made by: Quiet Automatic Oil Burner Corp., 33 Bloomfield Ave., Newark 4, N. J.

HOW ABOUT THAT?
THAT COAL FURNACE WAS GOOD FOR YEARS YET!
SURE....YOU DIDN'T CARE! I SHOVELED THE COAL...NOT YOU! IT'LL BE A PLEASURE WITH OUR NEW OIL-BURNER! NO MORE SOOT.... SMOKE.... SHOVELING! I FEEL LIKE A LADY....NOW!
CONGRATULATIONS, STEVE! THAT'S A GREAT OIL-BURNER YOU GOT THERE! SAME AS MINE! NOTHING LIKE 'EM! THEY SAVE TIME, GRIME AND MONEY, TOO! YOU WERE SMART TO BUY ONE!
THANKS, BILL! HAD'DA DO SOME TALL TALKIN' TO CONVINCE MABEL..... YOU KNOW HOW WOMEN ARE..... BUT SHE FINALLY AGREED! NOW SHE'S TICKLED PINK I GOT IT!
SEND IN YOUR CARTOON IDEA FOR ILLUSTRATION! YOU'LL RECEIVE CREDIT AND THE ORIGINAL DRAWING!
H.T. ELMO

THE G-E "TURN-BACK" FLAME, developed by G-E "Climate Engineers," travels a longer, hotter path than conventional blowtorch types...burns oil more completely, and gives more heat from less fuel. Owners of General Electric furnaces report fuel savings that run as high as 50%.



G-E HEAT TRAP DESIGN: Candle smoke above represents heat. The set-up at left shows unique G-E design, with flue passage at bottom, which traps heat in boiler. In an ordinary boiler, demonstrated by set-up at right, heat rises rapidly past the boiler to escape up the chimney.

THE G-E OIL BOILER

Home owners and dealers praise this G-E "Climate Engineered" heating unit. Revolutionary 20 years ago, it is still ahead of the field with a simplified, integral unit—not a boiler with a conversion burner added.

Thousands of satisfied home owners proudly boast about the comfort, economy and convenience of their G-E Oil-Fired Boilers. These owners are the best salesmen the General Electric Company and its dealers have.

G-E dealers, too, know the many advantages of the G-E Oil Boiler. It permits compact, speedy installation. Five models from 100,000 to 450,000 btu/hr. output meet any individual home heating requirement and may be used in multiple-unit installations in larger buildings or factories. Service is easy since all controls are at chest level.

The G-E Oil Boiler, featuring the famous *Heat Trap* design, has helped G-E dealers capture an increasingly larger share of their home heating market.

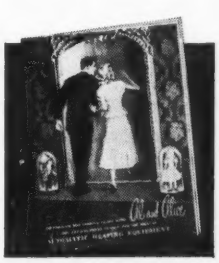
G-E *Air-Wall* Heating, used with G-E Oil Warm Air Furnaces, and many other G-E developments have opened *new* market horizons.

Public respect for the G-E name, proven customer satisfaction, and G.E.'s philosophy of "fine quality at a fair price" give G-E dealers a head start in the race for sales. *All* G-E Home Heating Equipment is backed by G.E.'s *single responsibility.* General Electric Company, Air Conditioning Division, Bloomfield, N. J.

IDENTICAL BUILDINGS...identical heating systems except...one had a G-E Oil Boiler, the other did not. Oil consumption with the G-E Boiler averaged 25% less.

ATTRACTIVE, COMPACT DESIGN makes the new G-E Oil Boiler popular in replacement and new-construction markets. Built-in tankless-type domestic hot water coil (optional) appeals to home owners.

FOR A LOOK INSIDE, write for this colorful 16-page folder, complete with cutaway of the General Electric Boiler. See why the G-E Oil-Fired Boiler is basically different...basically better. Get your copy now.



You can put your confidence in—

GENERAL ELECTRIC

fuel oil oil heat

OT* SERVICEMAN SAYS —

"Imagine that!

JUST TIGHTEN 2 SET SCREWS TO ATTACH A WEBSTER ELECTRIC UNIT"

"For my money a trouble shooter doesn't have to look like a complete machine shop . . . I got away from that long ago. For example, I recommend Webster Electric Fuel Units and use them on all replacement work because all I have to do, to install a Webster Electric unit, is to tighten two set screws with an Allen wrench. Could you find anything more simple? And I know when I'm done that my fuel unit troubles are over on that job. Remember, you can save time and trouble too, by just specifying Webster Electric Fuel Units."

*Old Timer

An identical unit is made for sale in Canada by Canadian Acme Screw & Gear, Ltd. of Toronto, under license by the Webster Electric Company, Racine, Wisconsin. Established 1909.

WEBSTER ELECTRIC
RACINE • WISCONSIN

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.

ICHAM concludes annual Convention and Exhibit

THE NINETEENTH annaul convention and exhibit of The Institute of Cooking and Heating Appliance Manufacturers, Washington 8, D. C., was held at the Netherland Plaza Hotel, Cincinnati, Ohio on June 4, 5 and 6. The theme of the meeting was designed to help dealers chart their course through 1951, coupled with 60 exhibits of products and services. Seven Product Division meetings covered sales trends, CMP, price ceilings and materials limitations, with specialty group meetings on Tuesday, June 5, concerned with new problems created by the Defense Program.

General convention sessions featured: Martin R. Gainsbrugh, chief economist, National Industrial Conference Board, who delivered "An Economic Forecast"; James C. Olson, Booz, Allen & Hamilton, management consultants, who advocated a "Plan for sound selling in the future" and George F. Lamb, Kittele & Lamb, attorneys, who delivered a "Washington Report."

Norfolk Chapter added to OHI Distribution Division

A SIGNED APPLICATION from the Tidewater Oil Heat Association, Norfolk, Va., along with a copy of its constitution and by-laws has been accepted by the Distribution Division, Oil-Heat Institute of America, Inc., New York 16, N. Y.

The application for membership in the Division will be acted upon finally at the July meeting of the Institute board of directors, but pending this the group is being treated as a Chapter in good standing, with its members eligible for regular membership privileges.

As a chapter Tidewater has 54 members. Officers are: C. J. Schul, president; F. L. Stuart, vice-president;

E. L. Fentress, treasurer and S. T. Hardy, Jr., secretary.

OHOT gathers at annual Outing and fishing Party

ABOUT 75 members of the Oil Heat Old Timers, Inc., Long Island City 1, N. Y., gathered on June 5 at the Crescent Club, Huntington, N. Y., for the annual outing and field day. The all-day affair got underway with early-bird golfers in the morning, included a noon luncheon, softball and field events during the afternoon and the evening banquet. An afternoon of sunshine was welcomed after the morning's gray skies finally cleared around noontime. Dan Bierman supervised activities and distributed the prizes.

On June 21 the club sponsored its fifth fishing party aboard the Traveler II, with accommodations provided for 50 men. Herb Helman, Joe Ross and Russ Dempsey were on the committee that arranged for the event.

Midwest Old Timers Outing to be held on August 23

ADVANCE NOTICE to all Midwest Old Timers has been given by Charley Bendix, regional chairman, Old Timers Club of the Oil Burner Industry, Inc., Chicago, Ill., that the annual golfing party will be held on August 23. The Racine Country Club, near Racine, Wis. has been reserved for the event and full details will be sent well in advance of the date of the outing.

Wisconsin Association holds last Meeting until Fall

THE FINAL MEETING of the season was held on June 28 by the Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis., at the Wisconsin Hotel. Important reports were rendered by the Advertising Committee, Legislative Committee. Further discussion also took place on new developments of a group insurance plan.

The Advertising Committee, among its other activities, reported the scheduling of 28 new billboards for Milwaukee County, beginning on June 15. The Golf Outing Committee also was heard, giving details of the affairs to be held at the North Shore Country Club on July 13.

OT* SERVICEMAN SAYS —

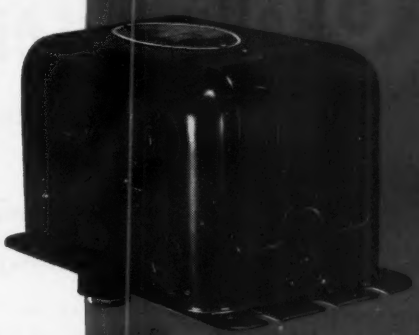
"I have no trouble—

BECAUSE WEBSTER ELECTRIC TRANSFORMERS ARE 'AT HOME' ON ANY BURNER"

"I find Webster Electric transformers real time-savers on my service calls. The interchangeable bases help me to service any make of burner faster and easier. What's more, I can pick up replacement units from my Webster Electric Service Station, so I don't have to stock a lot of specials. I decided, long ago, that I saved from every angle by standardizing on Webster Electric transformers . . . the line engineered with the serviceman in mind. Try them yourself and you'll be sold too."

*Old Timer

Webster Electric transformers are made by Webster Electric Company, Racine, Wisconsin. Established 1909.



WEBSTER ELECTRIC

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"Where Quality is a Responsibility and Fair Dealing an Obligation"

Maryland Association active in conducting burner Schools

ACTIVITY is being continued by the Oil Heat Association of Maryland, Inc., Baltimore 1, Md., in the number of oilburner service schools made available to members of the industry. The Department of Education, Baltimore, in conjunction with the Association, once more is conducting a summer oilburner school. It is not intended for beginners, but instead is covering service and installation in a way that will permit a man already engaged in such work to take a quick refresher course. The entire program will consist of practical work on light and heavy oilburning equipment, with no lectures. Sessions are held each Tuesday and Thursday nights from 8 to 10 P.M. at Vocational School 253 in Baltimore.

On July 6 the Association honored the graduates of the regular oilburner school it co-sponsors with the Department of Education at a dinner at the Hotel Stafford. This follows past custom to give the old timers an opportunity to welcome the newcomers to the industry.

The OHA also participated in a school for heating controls at the Hotel Stafford on June 25, 26 and 27, which was arranged by Frank P. Harbin, Harco Distributors, Inc., Baltimore. Instructors from Perfex Corp. gave the instruction for which there was no charge.

CUT SERVICE COMPLAINTS THIS FALL

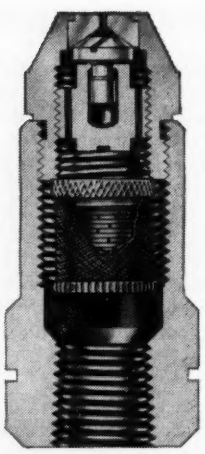
Replace Old Nozzles with

DELAVAN NOZZLES

EQUIPPED WITH

Hally Filters

★ Trouble-Free Service
★ Soft, Quiet Fires
★ Maximum Oil Economy
★ Positive Oil Filtering



Write for Catalog 147-D

DELAVAN MANUFACTURING CO.
3009 SIXTH AVE., DES MOINES 13, IOWA

OHI

New Jersey Fuel Oil Group plans first annual Outing

THE FIRST ANNUAL GOLF TOURNAMENT, outing and dinner, sponsored by the Fuel Oil Distributors Association of New Jersey, Newark, N. J., is to be held at the Twin Brooks Country Club, Watchung, N. J. on August 2.

Festivities will get under way at 1:00 P.M. when the first foursome will tee off. Tickets are available for golfers to include dinner and door prize chance, while non-golfers may procure tickets covering the dinner and door prize chance only.

OHI of Rochester holds annual industry Meeting

JUNE 14 was the date of the annual mass meeting sponsored by the Oil Heat Institute of Rochester, Inc., Rochester, N. Y., for all members of the industry, including servicemen and drivers. About 400 attended.

The principal speaker was J. A. Collins, manager, Frontier Oil Refining Corp., Buffalo, N. Y.

Chicago Oil Men's Club sponsors annual golf Party

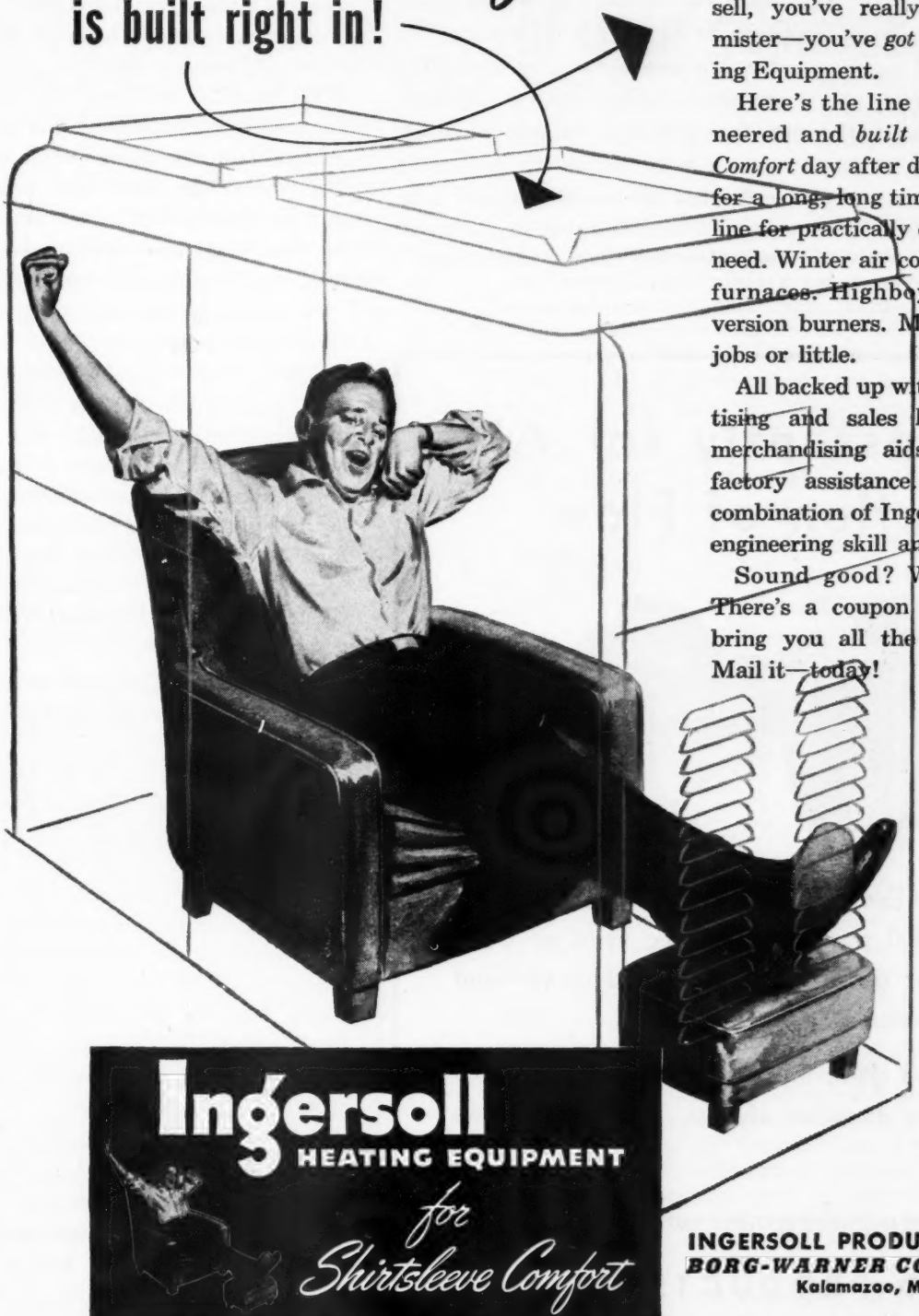
THE ANNUAL GOLF PARTY of the Chicago Oil Men's Club took place on June 12 at the Midlothian Country Club. The program for the day, in addition to the golf, included a dinner in the evening, awarding of prizes to golfers and non-golfers. Members of the Club attended without charge, visitors and guests were assessed a moderate fee.

Washington, D. C. Association making Study of sales Trends

A STUDY is being conducted by the Oil-Heat Institute of Greater Washington, Washington, D. C., on sales trends in the area. A. Graham Shields, manag-

Shirtsleeve Comfort

is built right in!



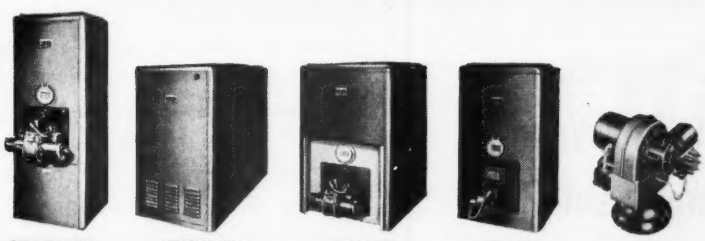
When you've got *Shirtsleeve Comfort* to sell, you've really got something! And mister—you've *got* it with Ingersoll Heating Equipment.

Here's the line that's designed, engineered and *built* to deliver *Shirtsleeve Comfort* day after day, winter after winter, for a long, long time to come. A complete line for practically every warm air heating need. Winter air conditioners and gravity furnaces. Highboys, lowboys and conversion burners. Models and sizes for big jobs or little.

All backed up with power-packed advertising and sales helps, co-op ad plan, merchandising aids, distributor support, factory assistance. *Plus* the unbeatable combination of Ingersoll and Borg-Warner engineering skill and production facilities.

Sound good? Want to know more? There's a coupon down below that will bring you all the profit-making details. Mail it—today!

Ingersoll
HEATING EQUIPMENT
for
Shirtsleeve Comfort



FORCED AIR HIGHBOY | FORCED AIR LOWBOY | PRESSURE GRAVITY | VAPOR GRAVITY | OIL BURNERS

INGERSOLL PRODUCTS DIVISION
BORG-WARNER CORPORATION
Kalamazoo, Michigan

BW

INGERSOLL PRODUCTS DIV., *Borg-Warner Corp.*
Dept. FO-4 Kalamazoo, Michigan

We're interested! Rush literature and details for:

☐ Franchise Distributorship ☐ Dealer

Send us literature, too!

☐ Architect ☐ Contractor

NAME_____

COMPANY_____

ADDRESS_____

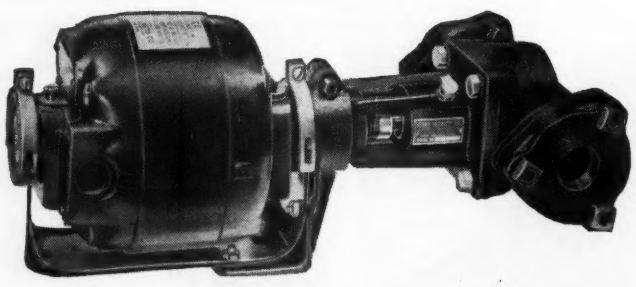
CITY_____ STATE_____

fuelfoil & oilheat

ing director, sent questionnaires by mail to all members, asking them how many of their customers converted to gas in 1950 and how many in the first five months this year. Also, a comparison is asked to be made to show whether oilburner sales are up or down this year as compared with last and what percent of this year's sales have been for replacements and how many went into new construction. A final question seeks to determine whether fueloil sales were up or down in 1950 as compared with 1949.

The Institute also notified its members recently of a provision that now requires mechanical turn signals on all trucks in the District of Columbia when the extreme outside part of the truck or its load is 2 ft. or more from the center of the steering wheel. The regulation became effective on June 4, with trucks now equipped to be approved if the signals are in working order and all trucks equipped after June 4 to include signals in accordance with the 1950 S.A.E. specifications.

Adjusts Instantly for ANY Direction of Flow



The heads of an Econo Hot Water Circulator can be swiveled in 1 or 360 positions. Nothing need be taken apart—no bolts or gaskets have to be removed—and there is no danger of leakage.

Simply loosen one clamp and the entire pump assembly may be set for any direction of flow. It saves you time and money.

Write for catalog explaining other outstanding features.

ECONO PRODUCTS CO.
17 State St., New York 4, N. Y.

Econo

Circulators,
Flow Control Valves,
Low Water Cut-Offs
and Heating Specialties

Five short Courses planned by Warm Air Association

PLANS announced by the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio, contemplate the holding of five warm air heating short courses in 1952. Bruce F. McLouth, The Sales Engineers, Minneapolis, and in charge of the Warm Air Short Course subcommittee of the Association, reveals that the sub-committee has set the dates for the courses and outlined the instructional material to be presented.

Five universities and colleges are cooperating in conducting the courses. Oklahoma A & M College, Stillwater, Okla. leads off the schedule with a 4-day school that gets under way on March 17. Professor Robert R. Irwin of the School of Mechanical Engineering, is in charge. Next is the course at Iowa State College, Ames, Ia., from March 25 to 28, with Professor Marvin Gould, Engineering Extension Service, making arrangements.

Michigan State College, East Lansing, Mich., sponsors the third course, under the supervision of Dean Lorin G. Miller, from March 31 to April 3, and the next one is to be held at Purdue University, Lafayette, Ind., April 9 to 12. Ben Speaker, F. W. Speaker & Sons, Inc., West Lafayette, will coordinate arrangements with Merle M. McClure of Purdue. The final class is scheduled for the University of Wisconsin, Madison, Wis., from April 15 to 18, with R. C. Tegtmeyer, director of the Mechanical Engineering Institute, making arrangements.

Each of the 4-day schools will cover four main design problems, from which the men in attendance can choose the course of most interest. One will deal with perimeter heating in basementless homes built on concrete slabs and over crawl spaces. Another problem will be the design of a gravity warm air heating system for a 1½ story home with expandable attic, coupled with a discussion of the conversion of a gravity unit to a winter air conditioning system. The third course will be the design of either a large ranch type house using zone control or a 4-room school and the fourth has been left open so that each university may

UNIVERSITY OF MICHIGAN LIBRARIES

present a subject of interest to the warm air heating men in the vicinity of the school. Interspersed between the main study will be lectures. The Associations' manuals will be used as text books for the courses.

Indiana Sheet Metal Group plans February annual Meeting

THE 34TH ANNUAL CONVENTION of the Sheet Metal and Warm Air Heating Contractors of Indiana, Terre Haute, Ind., has been scheduled for February 7 and 8, 1952 at the Hotel Severin, Indianapolis. The convention committee consists of Frank E. Stewart, chairman, E. L. Carr and Homer Selch, co-chairmen.

Sponsors, manufacturers and supply firms desiring reservations on the entertainment floor of the convention hotel should address Homer Selch, chairman, Hotel Committee, 944 Hosbrook St., Indianapolis. Individual reservations should be made direct with the Hotel Severin.

OIIC Meeting considers Plans for Oil Progress Week

THE SECOND QUARTERLY MEETING of the Oil Industry Information Committee, was held May 21 to 24 at the Brown Palace Hotel, Denver, Colo. Prominent on the agenda was a discussion of plans and policies for the 1951 Oil Progress Week, to be observed during October.

In addition, the Committee reviewed the progress of its nationwide public relations program and considered an editorial program to keep editors and writers fully informed on the oil industry's state of preparedness for any emergency.

Announce Dates for warm air Convention

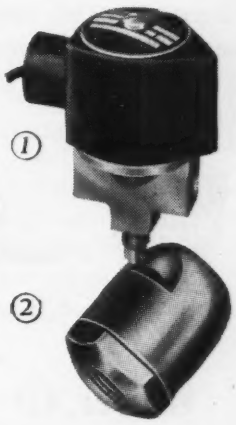
DECEMBER 5 and 6 have been selected as the dates for the annual convention of the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio. The program for the meeting, to be held at the Hotel Cleveland, already is being arranged to include representatives from pertinent government agencies to discuss controls and conditions as they then exist. In addition, industry leaders and experts from other fields will speak.

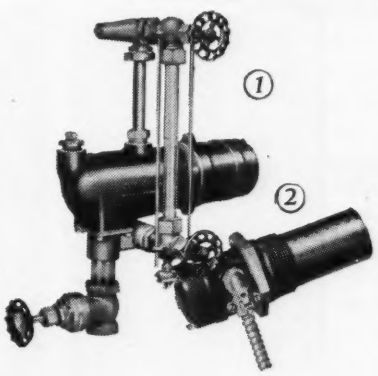
Want to take the "Slump" out of your summer sales curve?

You'll find it helps to feature *Honeywell* Controls like these!

Honeywell Oil Valves

1) The new Honeywell Delayed Opening Oil Valve (V4001) will help save you money by cutting out many no-profit service calls, help make you money as an easy-to-sell replacement item. It delays oil delivery to insure normal fuel-air ratio when combustion occurs. This means reduced carbon on burner nozzle, on electrodes and within heat exchanger. *2) The inexpensive V5000 Dribble-Proof Valve* withholds oil from nozzle until pressure is right for atomizing, shuts off oil when pressure starts to drop on shutdown. This means there's no dribble of oil to foul nozzle and electrodes.



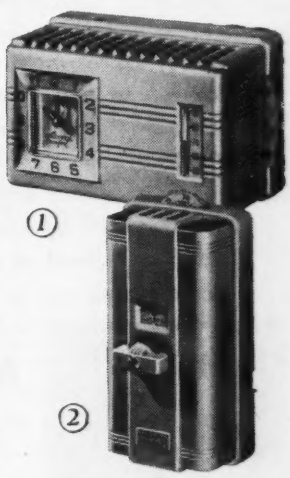


Honeywell Lo-Water Cutoffs

1) Honeywell's C402 Lo-Water Cutoff responds immediately to changes in boiler water level. Easy, external installation. Comes with quick hookup fittings and copper tubing. Automatic or manual reset. *2) The C401 Lo-Water Cutoff* shuts off the burner the instant the water level drops too far. It's low in cost because it requires fewer parts. Makes sludge less troublesome. Manual reset.

Honeywell Thermostats

1) The new Chronotherms are the most sensitive, most accurate thermostats ever built! They *automatically* lower the temperature at night, *automatically* raise it in the morning. A recent survey shows that 3 out of 4 thermostat owners raise and lower temperature settings every day. And the vast majority have to do it the old-fashioned way—by hand! These facts add up to a wonderful selling opportunity. *2) Honeywell's Time-O-Stat* is distinguished from ordinary thermostats by "Day-Nite" control that provides automatic morning pickup. And its Positive Shut-Off feature (optional at no extra cost) allows your customers to turn off the furnace without making a trip to the basement.



For full facts on the above controls, and for free illustrated folder explaining how Honeywell's new consumer advertising is helping YOU, write Minneapolis-Honeywell, Dept. FH-7-109, Minneapolis 8, Minnesota.

MINNEAPOLIS **Honeywell**

First in Controls

OHI of New England begins Campaign against Gas

A SERIES of group meetings in Connecticut have been held by the Oil Heat Institute of New England, Boston, Mass., in the areas which will be supplied with natural gas this summer by Northeastern Gas Transmission Co. pipelines, to explain an Institute Plan to meet natural gas competition. Purpose of the meetings was to decide if the industry in each area desired to adopt the Plan.

It calls for the establishment at local levels of representative committees, which, in general, will cover the same territory supplied by the local gas utilities. A small, selected group of dealers first meets with a representative of the Institute, discusses the Plan and decides if an industry meeting should be held to enable all oil heat dealers in the area to vote on putting the Plan into effect.

After a general meeting has been decided upon, the initial group of dealers then makes arrangements for and calls the meeting, presenting a tentative slate of officers and members to serve on the Local Committee. A member of the committee presides at the meeting, with the Oil Heat Institute of New England providing a group of speakers to present in detail the problems facing the industry and explain the operation of the Plan.

Each Local Committee must represent the retail sellers of fueloil and oil-heating equipment in its area, with the number varying in different places. A chairman, secretary and treasurer are to be elected, along with a finance committee, responsible for soliciting and collecting funds from local participants and an advertising committee, which will work out the type and amount of publicity to be authorized.

Subscriptions from local dealers will be based upon $1 for each burner sold and 1/10th of a cent for each gallon of fueloil sold. Dealers will execute agreements to participate, which become operative when the Local Committee decides a sufficient number of dealers have subscribed and remain in effect for a period of 24 months. The Local Committee controls the money subscribed and renders an annual statement of all sums received and spent. No member receives compensation for his services.

The Institute, as part of its contribution, arranges to retain an advertising agency to spread the cost of preparing advertising material. The agency, in turn, will work with Local Committees in accordance with their budgets on an initial program, covering the time prior to the availability of natural gas in the area and before information on the rates to be charged is available. The second period of the program will get underway when the industry will be faced with actual, active competition from the local utilities.

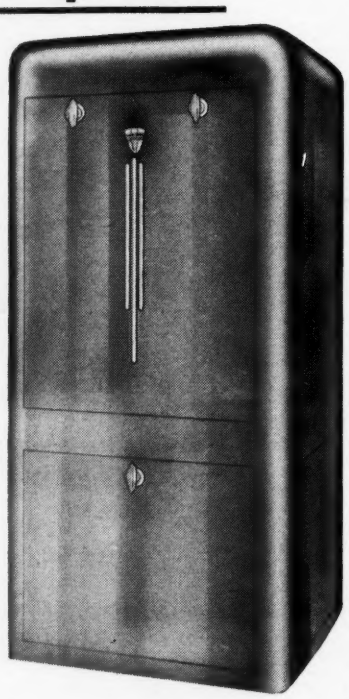
The long range objective of the Plan is to win greater public acceptance of oil heat as the best in automatic heating, coupled with selling at the local level to secure the largest possible volume of the national market for the products and services sold by the industry and a concerted attempt to improve standards and performance through research and in the installation of equipment.

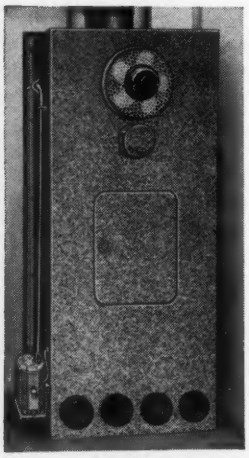
Silent Sioux

beats your competition

Winter Air Conditioner

Year after year Silent Sioux beats your competition on PRICE, QUALITY, PERFORMANCE, FEATURES and STYLING. The Silent Sioux "Complete Package" Winter Air Conditioner has 85,000 BTU output . . . will heat the larger 7 room home . . . has forced draft burner . . . forced circulation at 1200 CFM . . . finished in attractive gray hammertone. Comes complete—burner, blower, belt, pulleys, limit control, fan switch, oil control, fused entrance switch, wall thermostat and draft regulator—one "Complete Package" reduces inventory, simplifies installation. All-automatic operation delivers air-conditioned heat at a constant, even temperature.

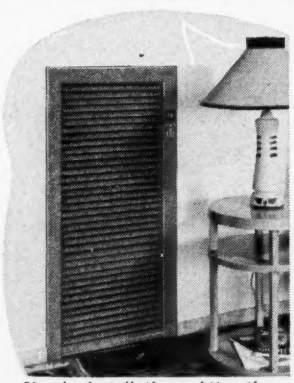




Heater is in utility room or alcove with all controls and access doors readily accessible for cleaning and servicing.

NEW...in the wall Oil Furnace

An ideal heating system for small and medium sized basementless homes. Equipped with the famous Silent Sioux "Triplex" burner. Thermostatically controlled forced circulation . . . 44,600 BTU/hr. . . . 7" general purpose fan . . . finished in smooth brown hammertone. Dangerous temperatures prevented by extra limit switch feature. Easier to install and service than a floor furnace.



Simple installation. Attractive louvered wall plate and oil control knob is all that shows in living area.

For greater sales and beat your competition too, stock up with Silent Sioux, write:

Silent Sioux Oil Burner Corp., Orange City, Iowa

AUTOPULSE

ELECTRIC FUEL LIFTERS

A Complete Line For Your Service

Models 8, 8F, 8FF and 8FT look like this. Size 6 inches high, 6 inches long, 4¼ inches wide. Average weight 7½ lbs.

ACTION of Autopulse Electric Fuel Lifter is entirely automatic. It delivers a measured supply of fuel oil to burners of the wall-flame, pot or sleeve types. There is a model for every need in the trade.

Thousands are installed monthly. Twenty years of successful and increasing use—the approval of leading safety authorities—give you assurance of reliable action and long life.

The various models offered are:

MODEL 8F—ONE FLOAT TYPE serves burners having their own inbuilt constant levels. Lifts fuel by suction from storage tank and transfers it by gravity to burner as needed. Off-and-on float and switch controls for intermittent operation. Has own Underwriters' Laboratory-approved safety devices **plus overflow-line provision.** Leading model for space heaters, floor furnaces, light wall flame burners, etc. Delivery in excess of 2 gph.

MODEL 8FT is like 8F except that a special float operated trip switch does away with overflow line use. This "one line model" has wide use in housing projects where installation-savings are of A-1 importance.

MODEL 8FF—TWO FLOAT TYPE is like 8F, except that second float-with-needle-valve operates accurately as an inbuilt constant level. Hence only a metering valve is required between pump and burner, with which it is levelled. Has wide use with vaporizing burners in stoves. Lint and household dirt effectively sealed out.

MODEL 8FFB is identical with 8FF in working parts, but reservoir is built with a special "bottle-cup", permitting use of barometric bottle in case of power or mechanical failure. Largest selling range oil burner pump—a favorite with users and installers.

MODEL 8—FLOATLESS is used only with rotary and wall flame burners **having electric ignition.** Pump and burner are wired electrically so that pump goes on-and-off with burner: overflow line returning excess fuel to storage tank. Capacity 6-7 gph. under average service. **Unmatched capacity at lowest cost.**

All models precision-built in volume—low in cost—simple to service—use them in full confidence of satisfactory service.

WRITE FOR QUOTATIONS ON FUEL LIFTERS OR "TEESDALE" PUMPS

5746

AUTOPULSE *Corporation*

LUDINGTON, MICHIGAN

Camera Views of the Old Timers' Jamboree

JUST TO PROVE that all the "shots" taken at the Old Timers' Club Annual Jamboree, held in Chicago during the National Oil Heat Exposition in April, didn't come in 1 ounce glasses, here are shown some of the shenanigans and a few of the dignified personages that graced the affair. The picture at the upper left is a general view of the initiation rites that welcomed 68, bedecked in derby hats, paper bow ties and rolled-up pants legs.

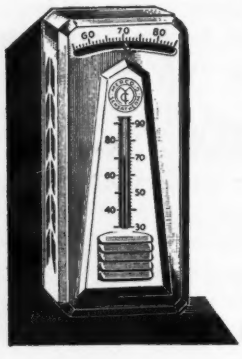
Directly below is the first section of a composite view of head table guests. At the extreme left is H. A. "Mac" Maccubbin, secretary, with Curt Soderberg next to him, followed by Harold Chapler, Charley Bendix, Skipper Barr and Clarence Pullum. Charley Chalmers is listening intently in the picture at the lower left, with Ed Bailey and Jim Owens, national chairman, also lending an ear to W. A. Matheston, toastmaster-at-work.

At the upper right, Matty, Jesse Johnson, Ed McDonnell, treasurer,

Lionel Jacobs, George Hochstein and Dick Bohn somberly contemplate their filet mignon, but directly below Messrs. Hochstein and Bohn, joined by Joe Hearst and Frank Harbin, are exhibiting a more festive mood, as befits the occasion.

Jim Owens, who resigned as national chairman for twenty minutes at the Jamboree, and then bowed to a motion, made, seconded and unanimously carried that he retain the job, is flanked by Bob Walshin and Fred Haab in the photo at the lower right.

MERCOID



for Even Room Temperature Control

a natural in
GOOD ENGINEERING

It is governed by the changes in room temperature only.

It has the inherent sensitivity to react quickly from its surrounding temperature to maintain room comfort without the aid of artificial stimulation.

It incorporates a Mercoid magnetic mercury contact switch—an assurance of long trouble-free service.

In appearance, its design and lustrous champagne tone finish is a gem on the wall of any interior decoration where it reflects its own environment. So easy to keep clean—a damp cloth with a little soap quickly removes all specks, dirt, etc. It does not tarnish or discolor with age and will remain permanently beautiful and new looking.

Experience among householders over the years has demonstrated that the Mercoid Sensatherm is meeting with general all around satisfaction. Since the day it made its advent in the automatic heating field there has been an ever increasing demand for this fine instrument.

It rests on its own record of dependable performance.

Write for new, complete catalog

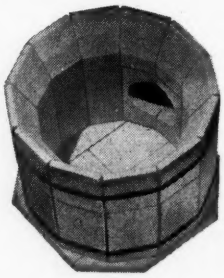
THE MERCOID CORPORATION * 4201 BELMONT AV., CHICAGO 41, ILL.

The

Instant-Glo

CUSTOM-BUILT INSULATING BRICK

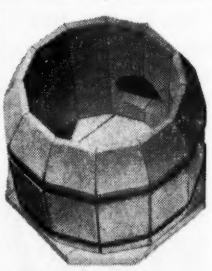
COMBUSTION CHAMBER



The Top Quality Installation for Maximum Efficiency

INSTANT-GLO Combustion Chambers are made of special refractory insulating bricks which get hot 10 times faster than ordinary fire bricks insuring an instant red-hot refractory surface, resulting in immediate combustion efficiency—result, oil economy 15% greater than ordinary chambers. The insulating quality of the bricks also eliminates loss of heat into base of heater.

The round shape of INSTANT-GLO Chambers eliminates air pockets and produces less combustion noise than the usual fire brick chambers. Each part is taper cut like a keystone so that chamber can not fall in. The INSTANT-GLO Chamber can be installed in one hour or less. All components of each chamber carefully packed in special carton—no breakage or loss.



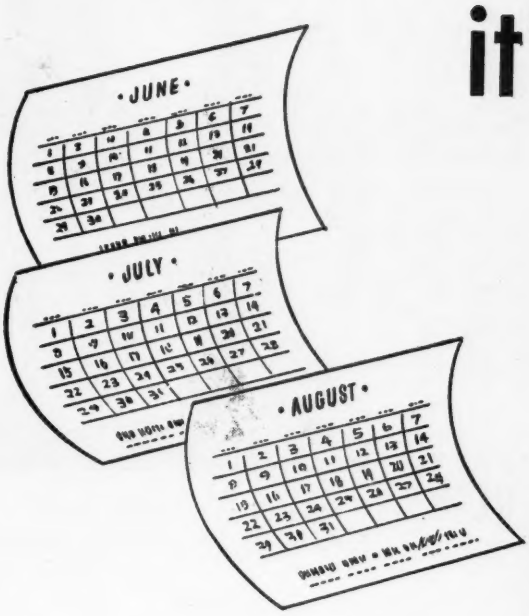
Junior or Junior A—.75 to 1.00 G.P.H.
No. 1 or 1A—1.00 to 1.35 G.P.H.
No. 2 or 2A—1.5 to 1.75 G.P.H.
No. 3—2.00 G.P.H.

Model 1A and 2A (*at right*) Special chambers for steel furnace installations.

Also Available—2600° INSTANT-GLO CHAMBERS IF REQUIRED

BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Division, Manufacturers, Lynn, Mass.



it's Open Season

for selling oil heating equipment

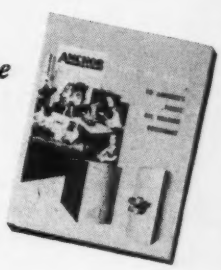
Now is the time to tie-in with Anchor . . . America's finest oil heating equipment. The product is right . . . the franchise is right . . . enabling you to make *more* sales, *easier* sales than ever before. Make this season an Anchor season . . . and bag *your* limit of oil heating profits. Write today for complete information.

ANCHOR
AIRE

ANCHOR DIVISION
STRATTON & TERSTEGGE CO., INC.
P. O. BOX 311, DEPT. F.O.-7
NEW ALBANY, INDIANA

Free Consumer Literature with your name.

Attractive, 2-color literature for you to overprint with your firm name is available for you to distribute to your prospects.



Manufacturers' Activities

Emerson Electric makes important personnel Changes

A SERIES of important personnel changes have been made by The Emerson Electric Mfg. Co., St. Louis 21, Mo. Henry C. Miller, who has been with the company since 1936, was promoted to the position of vice-president and general works manager. He has been assistant works manager and works manager of the Electrical Division and during World War II acted as assistant to the operating vice-president and later works manager, Turret Division.

Raymond E. Otto, a veteran of 37 years with Emerson, has become vice-president and general sales manager. Mr. Otto is one of many of company executives who have risen through the ranks, advancing to the position of manager of sales in 1939 and after the war becoming general sales manager,

Top, *l. to r.: Miller, Otto.*
Bottom, *l. to r.: Petering, Jackson.*

Electrical Division.

Ralph E. Petering has been elected vice-president and assistant treasurer. He joined Emerson in 1942 as comptroller in charge of accounting, was elected to the additional post of assistant secretary in 1946 and in 1950 to that of assistant treasurer.

Fred G. Sachleben has been made works manager, Electrical Division. He has been with Emerson for more than 39 years, starting in its Inspection Department in 1911. Subsequently he served as production superintendent and general superintendent and when the Turret Division was organized in 1941 he became works manager, Electrical Division and position he has returned to under his recent appointment.

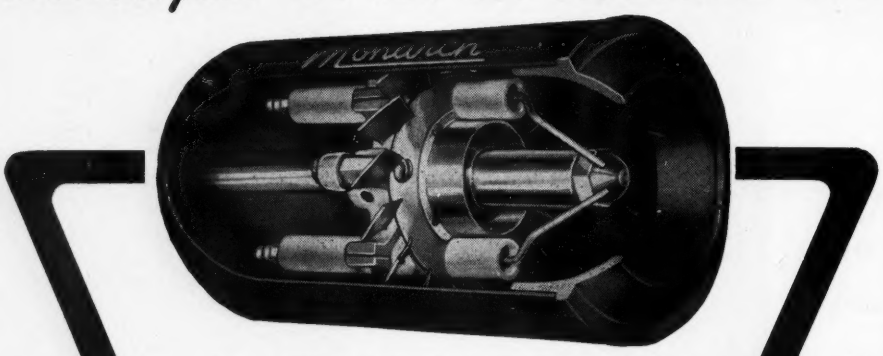
Other changes included the election of Byron W. Jackson as comptroller and assistant secretary; John A. Alles, appointed director of purchases, Armament Division; Lester A. Dahlheimer, named director of purchases, Electrical Division and Ralph E. Knowles, works manager, Armament Division.

McDonnell & Miller school for field Representatives

DURING THE WEEK of June 4 to 8 14 salesmen from the offices of representatives for McDonnell & Miller, Inc., Chicago 18, Ill., attended a training school at the company's office.

.....MONARCH.....

Investigate **THE NEW G81 COMBUSTION HEAD**



The new G81 combustion head will produce just as high combustion efficiency as the G74 head and will burn from .60 to 2.00 gph.

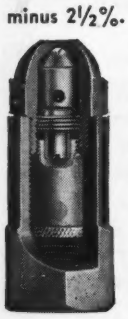
"PLUS" FEATURES OVER THE G74

- Costs half as much.
- As easy to install as an ordinary air cone and stabilizer.
- Simpler in construction.

WRITE FOR INFORMATION

MONARCH BURNER NOZZLES Preferred Because:

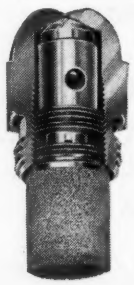
1. Each nozzle is individually tested and checked for capacity against the flow of a calibrated master sample. Capacity tolerances are as low as plus or minus 2½%.



2. Standard nozzles will fire most gun type high pressure burners satisfactorily. (Special series are also available for burners requiring specified spray characteristics.)

New Monarch Porous Bronze Nozzle Filter

The first practical all-metal Nozzle Filter. Rugged and compact. Solid metal to metal contact with Tip eliminates any possibility of dirt getting inside the nozzle between the Tip and Filter. Equivalent to 200 mesh screen, and recommended for use on fractional gallonage nozzles.



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MONARCH MFG. WORKS, INC.

2503 E. ONTARIO ST., PHILADELPHIA 34, PENNA.

European Distributor: A. Coutau, Rue de la Scie No. 16, Geneva, Switzerland

They're Built for GAS!
They're Built for OIL!

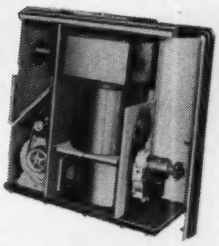
The NEWEST MONCRIEF Heating Units

BASEMENT AIR CONDITIONING UNITS

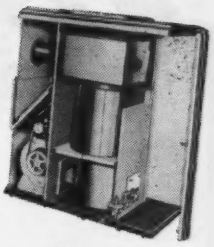
UTILITY AIR CONDITIONING UNITS

COUNTERFLOW UNIT FOR PERIMETER HEATING

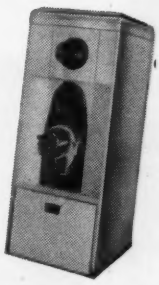
GRAVITY FURNACE



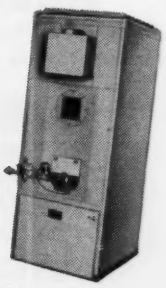
No. P-72
Basement A.C. Unit
equipped with Moncrief
Gun Oil Burner
85,000 B.T.U. at Bonnet



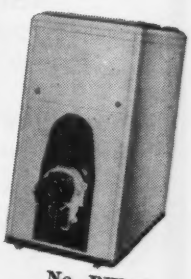
No. L-115
Basement A.C. Unit
equipped with Moncrief
Gas Burner
115,000 B.T.U. Input



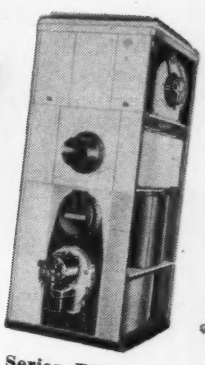
No. PH-83-E
Utility A.C. Unit
equipped with
Moncrief Gun
Oil Burner
82,500 B.T.U.
at Bonnet



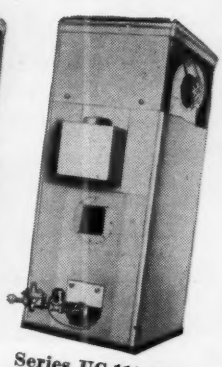
No. U-110-E
Utility A.C. Unit
equipped with
Moncrief
Gas Burner
110,000 B.T.U.
Input



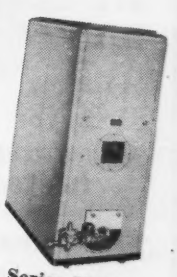
No. PW-64
Gravity Furnace
equipped with
Moncrief
Gun Oil Burner
75,000 B.T.U.
at Bonnet



Series PHC-83-E
Counterflow Unit
equipped with
Moncrief
Gun Oil Burner
82,500 B.T.U. at
Discharge Outlet



Series UC-110-E
Counterflow Unit
equipped with
Moncrief
Gas Burner
110,000 B.T.U. at
Discharge Outlet



Series W-100
Gravity Furnace
equipped with
Moncrief
Gas Burner
100,000 B.T.U.
Input

MONCRIEF the COMPLETE Line—Gas Units; Oil, Gun Units; Oil, Vaporizing Units; Coal Units; Steel and Cast Iron Heating Elements; Capacities from 50,000 B. T. U. to 250,000 B. T. U.

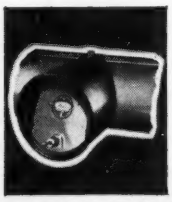
THE HENRY FURNACE COMPANY • *Medina, Ohio*

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

fuel oil heat

CONTROLLED DRAFT BY
field
BAROMETRIC CONTROLS

for automatic heating plants



FIELD TYPE M, first and finest for all types of automatic heating plants.

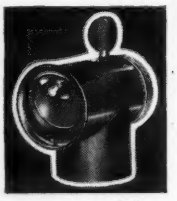
for hand fired furnaces

FIELD BAROCHEK, combination check damper and barometric draft control.

for stoves

FIELD R series and "SCOTTY", pre-set or adjustable, to bring out the finest in stoves and ranges.

for water heaters



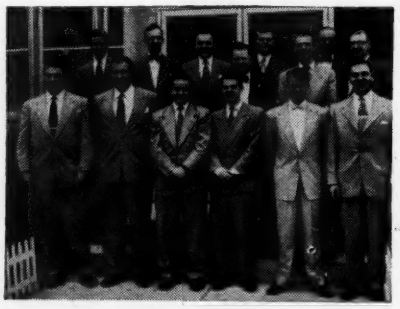
FIELD RNA-W, pre-set precision made, the finishing touch to a fine water heater.

Nationally advertised
IN BETTER HOMES & GARDENS

field CONTROL DIVISION
H. D. CONKEY & CO., MENDOTA, ILL.
AFFILIATES:
Conco Building Products, Inc.
Brick - Tile - Stone
Conco Materials Handling Division
Cranes - Hoists

Schooling concentrated on the construction, installation and application of each McDonnell safety device for steam and hot water boilers, including lectures on company policies and customer relationship. Principal instructor was John James, in charge of research for the corporation.

The dates of the school coincided with the first anniversary of the occupancy of McDonnell & Miller's new office building at 3200 N. Spaulding Ave.



Pictured outside *the McDonnell & Miller office building are the 14 salesmen who attended a training school, June 4 to 8. Front row, l. to r.: Robert Finn, Philadelphia; Jim Pleasants, Greensboro; Ed Vernier, Detroit; Bill Boales, Jr., Detroit; John Bullard, Atlanta and Joe Ade, Philadelphia.*

Second row, l. to r.: Ralph Warren, Chicago; John Wynne, Philadelphia; P. F. Holmes, Washington, D. C.; George Kelly, Chicago; Joe Martin, Philadelphia and Leo Garneau, Montreal.

Back row, l. to r.: Earl Smarzo, Syracuse and Bob Miller, Toronto.

Oil-O-Matic repeats "June Unit" Campaign

A REPEAT PERFORMANCE of last year's highly successful "June Unit" campaign, sponsored by the William Oil-O-Matic Div., Eureka Williams Corp., Bloomington, Ill., ran from May 28 through July 7. This year's program was 11 days longer than last year's and again was based on company awarded prizes to dealers and their salesmen in proportion to their individual number of sales of winter air conditioners and boiler-burner units. Winners selected awards out of a catalog listing 1800 prizes, relative values being determined by the number of "points" they had earned.

An entire advertising, merchandising and promotion program supported this year's campaign, which, in addition to satisfying numerous dealer requests to repeat the contest, also fulfilled company policy of using strong promotional activity to level off traditional ups and down of the seasonal oilheating equipment market. "Such promotional activity," said E. H. Davison, general sales manager, "during off-season months has had very good results in the year around sales picture at Oil-O-Matic." Stabilization of employment, decreased factory and field overhead and a higher annual sales volume are a few of the benefits attributed to the program, plus the elimination of lost sales through lack of equipment or insufficient installation crews in the late summer and early fall peak periods.

Honeywell augments steel Supply with French Metal

THE FIRST PART of a shipment of French steel was unloaded recently at the Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., consisting of 230,000 lbs. of metal on a total order of 300 tons. M-H purchased the lot because of the tightness of local steel sup-

BETTER

because it's different!

RECTORSEAL #2

Proved by 15 years service in the oil fields . . . proved for your industry by 6 years service in all parts of the country Rectorseal is different. Thin in the can, it thickens in the joint to make a perfect, permanently leak-proof seal. SEND FOR FREE SAMPLE! Use it on your next job and prove to yourself that Rectorseal #2 is the finest sealing compound you ever used.

RECTORSEAL, Dept. O
2215 Commerce St., Houston 2, Texas

RECTORSEAL
Patented. Trade Mark Reg. U. S. Pat. Off.
NUMBER TWO

1—A NAME THAT'S KNOWN AND RESPECTED ALL OVER THE WORLD. 2—PRODUCTS THAT LEAD THE FIELD IN DESIGN AND PERFORMANCE. 3—NATIONAL ADVERTISING AND SALES PROMOTION PROGRAM. 4—A COMPLETE LINE OF HEATING AND COOLING UNITS FOR EVERY SEASON. 5—FACTORY-SUPERVISED TRAINING PROGRAM FOR SALES AND SERVICE PERSONNEL. 6—BIG-VOLUME, MASS-PRODUCTION FACILITIES AND TECHNIQUES.

These are the reasons why wise dealers are signing up for Chrysler Airtemp franchises. They know that Chrysler Airtemp is *the line* for bigger volume and year-'round profit. Chrysler Airtemp products are easy to sell for every householder and businessman is aware of the sterling reputation of Chrysler Corporation. And Chrysler Airtemp salesmen are backed up by an intensive, hard-hitting advertising campaign in national magazines and newspapers. Then again, Chrysler Airtemp's line of products for heating, cooling and refrigeration means year-'round sales—no matter what season.

And Chrysler Airtemp offers experienced help in training dealers' sales and service teams. Add up these factors plus Chrysler Airtemp's big-volume production, which means prompt delivery on any item, and you see why more and more dealers are joining the Chrysler Airtemp team. There may be a franchise open in your neighborhood. Why not mail the coupon today for full details.

FO&OH-7-51

Airtemp Division of Chrysler Corporation
Dayton 1, Ohio

Please rush me complete information on the profitable Chrysler Airtemp dealer franchise.

Name_____

Address_____

City_____ Zone____ State_____

CHRYSLER AIRTEMP
DIVISION OF CHRYSLER CORPORATION

Chrysler Airtemp

AIR CONDITIONING • HEATING • COMMERCIAL REFRIGERATION

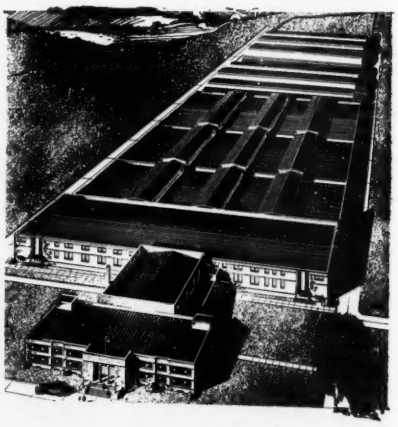
Airtemp Division of Chrysler Corporation, Dayton 1, Ohio

plies and has been informed that the second part of three shipments already is on the way.

The price for the steel, purchased directly from the Firminy Steel Co., Firminy, France, through Patrick Sullivan, manager of Honeywell's French subsidiary company, is comparable to present market levels for domestic steel, its quality is excellent and it can be used interchangeably with American steels. William H. Westphal, manager of the company's international division, describes the French metal as cold rolled, deep-drawing steel, one of the most common types used at Minneapolis, where the company requires about 200 different kinds of steel.

Construction starts on third Unit of York-Shipley Plant

CONSTRUCTION has been started on the third unit of the new 8-unit plant of York-Shipley, Inc., York, Pa., on company property on Northills Road. It will contain 32,000 sq. ft. of floor space, dock high with railroad sidings inside the building on each end, allowing raw material to be brought in at one end of the building, processed to the other end and shipped or stored as finished product. The design of the unit is unique in that 80 ft. structural steel spans allow clear floor space for



manufacturing in the 80 x 400 ft. building. Construction will be single floor brick, concrete and steel, with a cellar in the center for all auxiliary and service units.

Three more units of identical size are planned within the next several years, with the finally completed plant providing 192,000 sq. ft. of manufacturing space in one integrated unit. Plans also have been drawn for office and auditorium-cafeteria buildings. The complete project will occupy one-half of the 40-acre tract, leaving space enough for a second plant of the same size.

Heil Booklet tells how to cut heating Costs

PREPARED for householders and larger users of heating units, a 24-page, 3-color booklet, "179 Ways to Cut Your Heating Costs," has been announced by The Heil Co., Milwaukee, Wis. Interesting information is presented, highlighted with clever illustrations, with sections devoted to warm air, steam and hot water heating, as well as gas, coal and oil fuels.

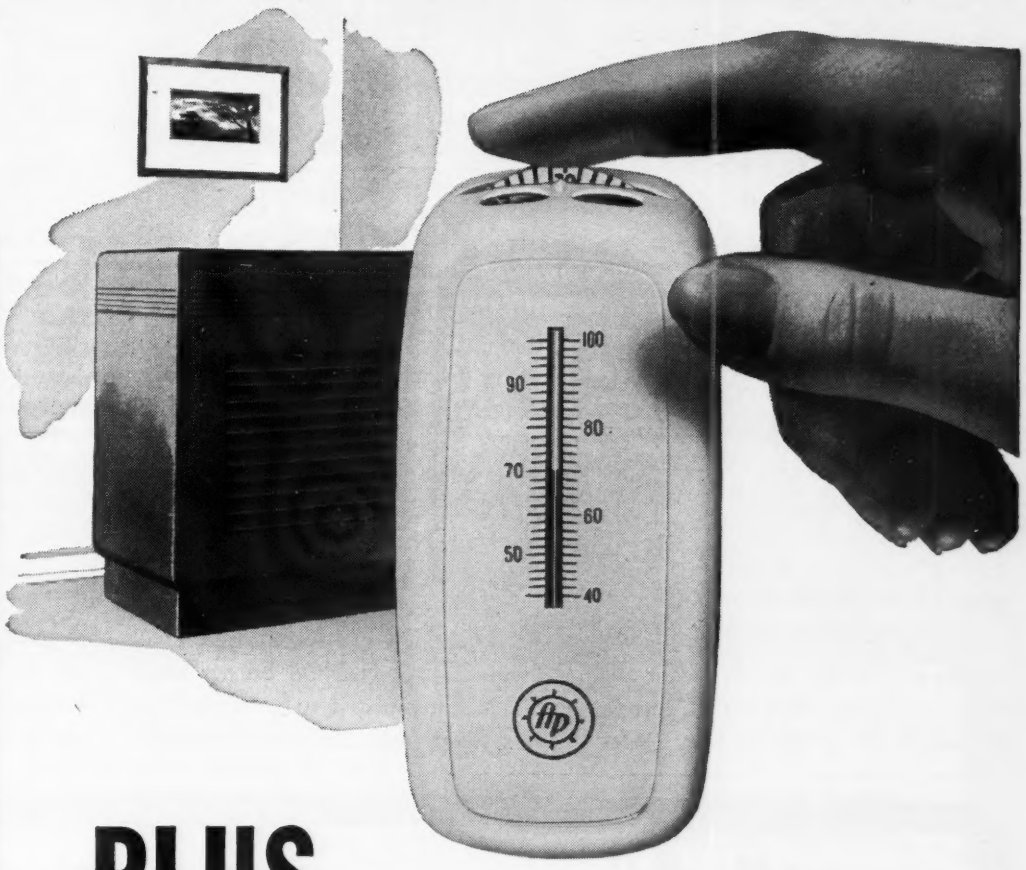
Typical of the information the booklet contains are such things as items to watch for in the heating unit to help it operate at peak efficiency, checking of house construction details, location of thermostat and proper thermostat settings under varying conditions.

GAS
OIL
CENTURY'S
44 UNITS
Can make money for you every day!
★ The dealer who sells from a complete line of Automatic Gas / Oil Heating Equipment closes more sales .... makes more money!
★ Write today! Some choice territories are open — let us tell you how you can build greater profits with an exclusive CENTURY franchise.
CENTURY
ENGINEERING CORPORATION
CEDAR RAPIDS, IOWA
OIL
GAS
CENTURY
The Finest in Automatic Heating Equipment

YOU CAN'T HELP MAKING MONEY

If you sell one of these famous space heaters

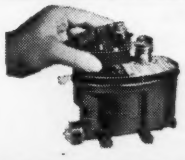
ALLEN'S
BARNES
BEYER
COLE HOT BLAST
COLEMAN
COLEMAN *(Canada)*
CREST *(Canada)*
CUSTOM-AIRE
DUO-THERM
ENTERPRISE
ENTERPRISE *(Canada)*
ESTATE-HEATROLA
FINDLAY *(Canada)*
FLORENCE
H. C. LITTLE
HERCO *(Canada)*
INTERNATIONAL
JUNGERS
LACO
LONERGAN
MAGIC CHEF
MONARCH
MONARCH *(Canada)*
MONOGRAM
NESCO
NORGE-HEAT
PERFECTION
PREWAY
QUAKER
SAFEWAY
SIEGLER
SILENT FLAME
SUPERFLAME
TORRIDAIRE
WASHINGTON FRUGAL



PLUS ALL THE LUXURY OF AUTOMATIC HEAT — WITH LOW-COST, EASY TO SELL A-P COMFORT CONTROLS

Yes, if you sell one of the famous-make space or trailer heaters listed here you can offer every customer the luxury of true automatic, thermostatically controlled heat! This means easier selling, because you can offer comfort and convenience equal to the most expensive kind of heating, with no wasted heat — and substantial fuel savings!

What's more, this easy-to-sell comfort means ADDITIONAL PROFITS for you. Write now for Bulletin T-2 on A-P Comfort Controls.



EASY TO INSTALL

There's an A-P Electric or Mechanical Comfort Control actually engineered to fit these heaters. Just mount conversion top on present manual control; connect to thermostat and transformer. Mechanical thermostat even eliminates wiring!

DEPENDABLE Controls

Famous for completely reliable service . . . in oil heating . . . gas heating . . . refrigeration.

A-P CONTROLS CORPORATION

(formerly Automatic Products Company)

2458 N. Thirty-second Street • Milwaukee 45, Wisconsin • In Canada: A-P Controls Corporation, Ltd., • Cookville, Ontario

Sees atomic fuel Heating within twenty-five Years

E. J. GOSSETT, President, Bell & Gossett Co., Morton Grove, Ill., predicts the use of nuclear energy for heating fuel "within 25 to 30 years, maybe sooner, barring the complete cessation of peacetime atomic research due to a third world war." He foresees an economy-sized atomic pile, designed to heat the home all year at a cost less than the average family's current bill for one month.

Mr. Gossett reasoned that the introduction of such low-cost fuel would enable more and more homeowners to afford the latest and most efficient heating systems to provide the most inexpensive and healthiest home warmth ever known and might well mark the beginning of the "Golden Age" of luxury living.

Miss Hicks visits Europe on vacation-business Trip

BEATRICE A. HICKS, vice-president and chief engineer, Newark Controls, Bloomfield, N. J., left on May 18 for Europe on a combined vacation-business trip. Accompanied by her husband, Rodney D. Chipp, director of engineering for the Dumont Television Network, she will visit Great Britain, France, Italy and Switzerland and plans to survey activities in the control field and manufacturing techniques in these countries and visit with officials of technical societies.

Miss Hicks is president of Society of Women Engineers in America.

Hueller Mfg. Co. to be managed by A. J. Sbare

THE H. J. HUELLER MFG. CO., INC., has been moved from its former location in Brooklyn, N. Y. to 3240 Barker Ave., New York 67, N. Y. Manufacture of Twin Control oilburners now is located at the plant of W. T. Howald Machine Shop, 182 Sigourney St., Brooklyn, N. Y.

Plans to dissolve the Hueller company have been almost completed and the formation of a new company, The Twin Control Fuel Oil Burner Mfg. Co., is contemplated, to be managed by A. J. Sbare, who conducts his own oil-heating equipment business at the Barker Avenue address. At the time of Harry J. Hueller's death in June 1950, Mr. Sbare agreed to carry on the business until all indebtedness had been liquidated. This was accomplished by the end of last year and the new plans have been drawn up to continue the manufacture and sale of Twin Control oilburners.

Service Oil Co. is named Cities Service Distributor

THE SERVICE OIL CO., INC., Syracuse 4, N. Y., has been appointed distributor for Cities Service Oil Co. in the Syracuse, Onondaga County, N. Y. area The complete line, including fueloil and kerosene, is being handled.

The distributorship operation encompasses 5 controlled retail outlets in Syracuse and other dealer and commercial accounts within the county. J. L. O'Brien, formerly manager of Cities Service Oil Heat Department, New York Div., is president, with Ed Carey and Fred H. Gilbert, New England Petroleum Corp., New York City, vice-president and treasurer.

Sell 90% of the Home Heating Market with ALDRICH

CONVERTIBLE

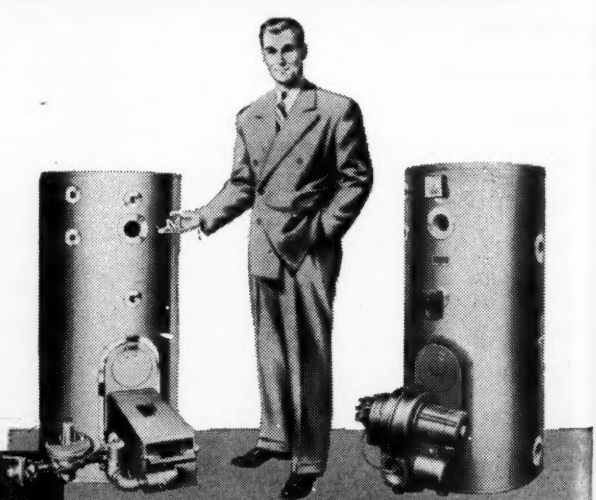
HEAT-PAK BOILER-BURNERS

Nine out of ten new homes heat with oil or gas. With Aldrich you sell both markets—plus the industrial market with either type of fuel.

Aldrich Boiler-Burners come in seven sizes from 100,000 to 808,000 BTU/hr., and are all "convertible" with oil fired or gas fired burners readily interchangeable, except that the 514,000 and 808,000 sizes must be originally gas fired to be interchangeable. You meet more requirements with less inventory . . . you can cash in on oil units now, cash in again with conversion when gas is available.

Aldrich vertical-type Boiler-Burners are compact and efficient; finished in beautiful Hammerloid blue with chrome trim. They are shipped crated fully assembled, ready to set in place and connect.

PROFIT WITH ALDRICH—GET DETAILS TODAY. WRITE OR WIRE FOR HEAT-PAK FACTS, FULL SPECIFICATIONS.



Available Gas fired

Available Oil fired

BURNERS INTERCHANGEABLE

Another BREEZE MARK Product

THE ALDRICH COMPANY

A subsidiary of Breeze Corporations, Inc.

ALDRICH HEAT-PAK PRODUCTS

103 East Williams Street, Wyoming, Ill.

what's in a name?

PRODUCT:

Every Waterbury furnace, air conditioner and gas conversion burner must meet the highest standards in warm air heating equipment. This is in line with the Waterbury belief that "it's what's *under* the casing that counts!"

POLICY:

Waterman-Waterbury maintains a clearly-stated policy toward dealers and distributors. It includes exclusive distribution rights, a close, personal relationship between dealers and factory, and a complete line of quality equipment.

FACTORY:

For over 44 years, the Waterman-Waterbury Company factory has combined the finest efforts of skilled craftsmen and experts in heating. The result has been continuing customer satisfaction with Waterbury furnaces.

MARKET:

National advertising and the testimony of satisfied customers give prospective customers confidence in Waterbury. Effective merchandising and local advertising help these prospects become satisfied customers.

What's in a name? . . . This brief summary can't begin to mention everything symbolized by the name Waterbury. However, it *does* help explain why many dealers find that association with Waterbury is good business. To learn what this can mean to *you*, write . . .

The Waterman-Waterbury Co.

OVER 44 YEARS OF WARM AIR HEATING

1171 JACKSON STREET, N.E. • MINNEAPOLIS 13, MINN.

KLEENMASTER Makes Servicing Profitable

Eliminate your service loss on oil accounts. Kleenmaster grosses $7.00 per customer after selling expense and labor.

Keep your Drivers and Servicemen busy during the summer slack.

The "Big Bag" with your name in large type gives you "Billboard and Soundtruck" advertising.

Write for details including
Sales Manual and Profit Analysis

MOLLOY MACHINE CORPORATION

3445 N. Western Ave.
CHICAGO 18, ILL.

U. S. Radiator honored by Industrial Engineers

THE MERIT AWARD of the American Society of Industrial Engineers has been presented to United States Radiator Corp., Detroit 26, Mich., for "leadership in research, engineering, design-styling and manufacture in the boiler and radiator field."

Robert L. Crinnian, president of the Society, made the award recently to Wesley J. Peoples, president of U. S. Radiator.

Quiet Automatic Burners now equipped with delayed oil Valve

ANNOUNCEMENT has been made that oilburners produced by Quiet Automatic Oil Burner Corp., Newark, N. J., now are equipped with delayed action solenoid valves. The disclosure pointed out that while the Socony-Vacuum Oil Co., which recently released details of the development of a fuel-saving gadget, did not mention any brand, Quiet Automatic oilburners have incorporated the device.

Mack Diesels used in Colleges for Training

H. W. DODGE, executive vice-president, Mack Trucks, Inc., New York 1, N. Y., recently reported that his company has loaned 138 horse-power diesel engines to more than 20 colleges and universities for teaching and training purposes. He explained that this was in line with Mack policy "to contribute as much as it can to the development of badly needed diesel trained technicians."

At one university students took apart and re-assembled a Mack diesel engine using only the regulation maintenance manual.

General Filters handling Clean Right soot Remover

NATIONAL DISTRIBUTION of Clean Right soot remover, manufactured by Miller Products Co., has been taken over by General Filters, Inc., Detroit, Mich. The remover, which is in powder form, acts without flash or intense heat and induces the union of soot with oxygen, causing normal burning of the particles.

Three sizes are offered in Junior, Handy and Thrift packages. General Filters also has available a sprayer to facilitate application of the powder.

Nu-Way inaugurates Company news Letter

TO PROVIDE more regular contact with its distributors, the Nu-Way Corp., Rock Island, Ill., has inaugurated a company news letter, "Nu's Along the Way." O. K. Gipple, vice-president, describes the purpose of the letter as a means of disseminating facts, ideas, backgrounds and latest information on the changing business situation as it affects manufacture and sales of the Nu-Way line.

The initial issue briefly told of the company's research and engineering program and reminded the distributors of the availability of Nu-Way electric display flasher units for window, counter or floor use. It also announced that the company's plant vacation extended from June 27 to July 7.

Use "CRESCENT PARTS" Service
SERVING THE ST. LOUIS TRADE AREA

Authorized Fuel Unit Service Station

Stoker and Oil Burner Parts

FUEL UNITS
TRANSFORMERS
ELECTRODES
COMBUSTION CHAMBERS
FILTERS
TUBING
FITTINGS
NOZZLES
CONTROLS
OIL TANKS

CONTROL

REPAIR EXCHANGE SERVICE

SEND US YOUR ORDERS OR INQUIRIES

CRESCENT PARTS AND EQUIPMENT CO., INC.
825-831 S. Boyle Avenue St. Louis, Missouri

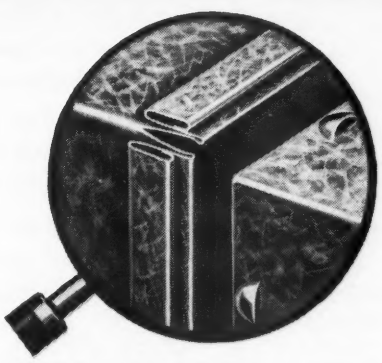
STOKER & OIL BURNER
M-H, PERFEX PENN

Here's Why

You Make More Profits on ADELTA Warm Air Duct Systems

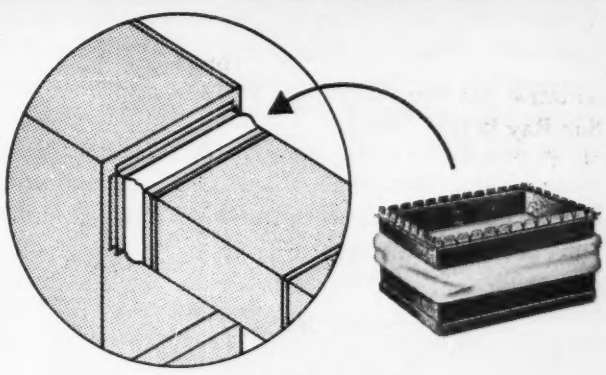
These are a few of the exclusive units offered by ADELTA to make the installer's job easier and more profitable. Completely new in design, they introduce new methods of installation that save you hours on every job. They are made *only* by ADELTA, and cost no more than old-type ducts and fittings.

For information on the complete ADELTA line, write for our 1951 catalog.



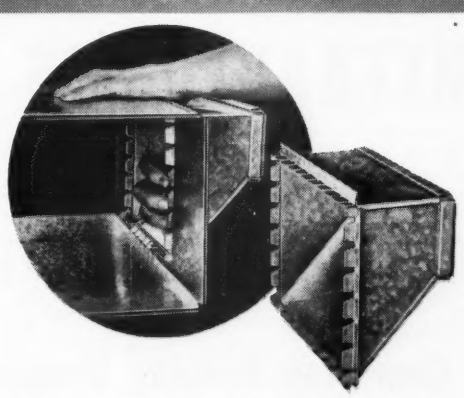
ONE-PIECE SNAP-LOCK CLEAT

...is an exclusive feature on all ADELTA units, including take-offs and reducers. You just push two sections together, and presto!—you have a rigid, leakproof joint... without any drilling, notching or crimping to slow up the job. Cleat can't get lost in shipment or on the job because it's formed from the same sheet as the fitting.



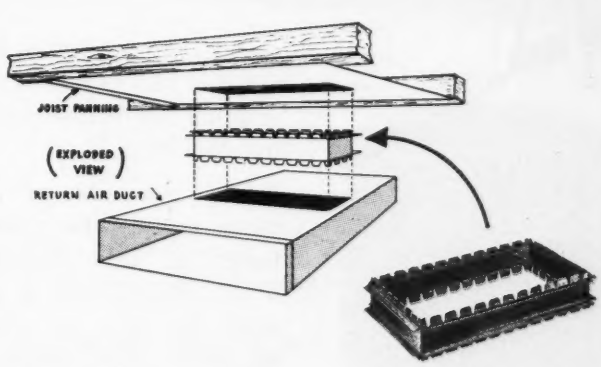
#25 FLAME-PROOF CONNECTOR

...a new standard unit for connecting furnace plenum to warm air trunk. Center section is made of flame-proof fabric, which absorbs fan vibration, and also speeds installation by allowing "play" at the point of connection. The #25 replaces two other fittings—saving up to 50% of their cost. Equipped with new pre-notched collar.



NEW PRE-NOTCHED COLLAR EDGES

...save time on every collar edge connection because they're easily closed by finger pressure. No need for the installer to notch the edges, straighten them with pliers, and hammer them closed. Notches are die-cut in a U-shape, and corners are rounded to prevent finger injury. Provided on all 4 sides of fittings with collars—at no extra cost.



#20 RETURN AIR CONNECTING COLLAR

...saves you time and trouble in connecting joist panning runs to return air duct. No need to use elbows, or to slit and bend panning or duct. Comes in 8 sizes to fit all standard trunk ducts. Equipped with new pre-notched collar.

NATIONAL WARM AIR HEATING AND AIR CONDITIONING ASSOCIATION — INDOOR COMFORT

ADELTA MANUFACTURING COMPANY, INC.

2101 ELLSWORTH STREET • PHILADELPHIA 46, PENNA.

Maid-O'-Mist adds two Representatives

L. O. PELLETIER and associates, Newton, Conn., have been appointed New England representative by Maid-O'-Mist, Inc., Chicago. Havco Sales Co., Port Chester, N. Y., at the same time were named for Westchester, Putnam, Rockland, Orange and part of Dutchess counties, N. Y.

Each representative in handling the Maid-O'-Mist line of hot water and steam heating specialties and warm air humidifiers will bring sales aids closer to local jobbers and dealers.

Sun-Ray Burner names New England Representative

APPOINTMENT of Oliver & Brink, Roslindale, Mass., as factory representative has been announced by the Sun-Ray Burner Mfg. Co., Jamaica 2, N. Y. The outlet will operate in the states of New Hampshire, Rhode Island and most of Massachusetts, handling the entire line of Sun-Ray gun type oilburners for residential and commercial heating requirements.

Bill Oliver will cover western Massachusetts for Oliver & Brink, Cecil Small will contact dealers in New Hampshire and along the north shore of Massachusetts, Roger Lunt will operate in Rhode Island and southern Massachusetts and Ernest Newton will be assigned the metropolitan Boston territory.

Owens-Corning Booklet on perimeter Insulation

A 20-PAGE BOOKLET, "The Story of Perimeter Insulation for Standard Heating Systems," can be secured from Dept. PI, Owens-Corning Fiberglas Corp., Toledo 1, Ohio. The booklet consists almost entirely of diagramatic sketches illustrating the proper use and application of perimeter insulation. Each diagram demonstrates the solution of a specific problem found in basementless homes in which both radiant and warm air heating systems are being installed, showing heat loss through the slab before and after insulation has been applied.

The publication has been prepared for heating equipment manufacturers and owners, builders and contractors and it tells that temperatures inside and outside the home and those below it must be considered. Much heat is lost through the concrete floor slab and the stone and gravel fill, the booklet says, if perimeter insulation is not installed below ground along the foundation wall.

Step-by-step instructions, including sketches, indicate that Fiberglas perimeter insulation is laid against the foundation wall and enough earth backfilled to hold it in position. The backfill next is graded for installation of warm air perimeter ducts or hot water pipes and crushed stone or gravel filled to the required depth. Finally, as shown in the booklet, the installation of ducts or pipes is completed in the standard manner and the floor slab poured.

B & G Handbook wins Award from Institute of Architects

THE B & G HANDBOOK on the design of hot water heating systems on May 24 received a Merit Award from the

A filter is only as good as its element

—and only KLEMM has CHEMISTONE (the original controlled porosity element).

Your customers will be quick to see the advantages of this superior filter. Right now is the time for you to stock KLEMM FILTERS so that every salesman can take one with him on summer service calls. Write today for special introductory offer.

Mfd. in Canada by Elgee, Ltd., 410 Hopewell, Toronto

Klemm

AUTOMOTIVE PRODUCTS CO.
1718 N. Damen Ave., Chicago 47, Ill.
Export Div.: Guiterman Co., Inc.
35 S. Williams St., New York, N. Y.

CERAMIC REFRACTORIES

•

The Gem Clay Forming Company

SEBRING, OHIO

Established 1907

Telephone: SEbring 8-6141

IF YOU SELL-INSTALL OIL HEATING SYSTEMS

YOUR BEST BET IS

WAYNE

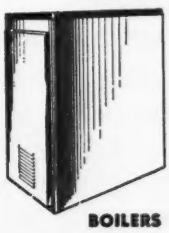
THE COMPLETE OIL HEATING LINE

Let Wayne oil heating equipment boost your fuel oil sales. Wayne is the name for '51 in oil conversion burners and "packaged" automatic oil heating systems. Nationally advertised — nationally accepted. Wayne is "easy to sell" —"easy to install"for peak operating efficiency with minimum service.

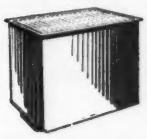
1951 marks Wayne's 28th year manufacturing oil burners. New design improvements and simplification of burner construction have been incorporated, resulting in the most efficient burner in the last quarter century.

As an oil jobber you will be insuring greater profits for years to come if you get the Wayne line now.

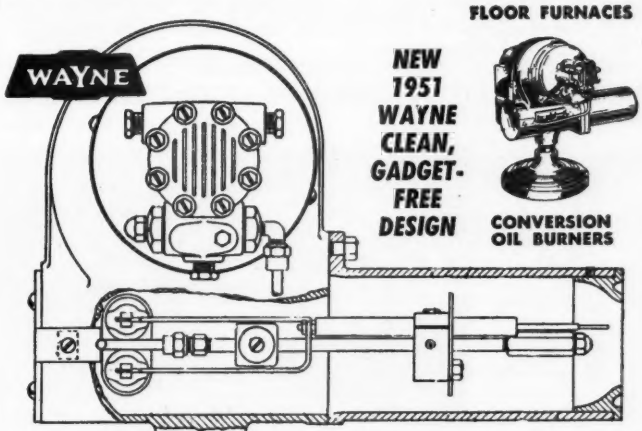
FORCED AIR FURNACES



BOILERS



FLOOR FURNACES



NEW 1951 WAYNE CLEAN, GADGET-FREE DESIGN

CONVERSION OIL BURNERS

All parts are accessible from rear of air tube assembly.

Note above how simplified the "standard" burner parts arrangement is. Cleaning and inspection are no problem. Wayne is "the serviceman's favorite burner."

100% SERVICEABLE!

GET WAYNE NOW

Act NOW to strengthen your supply and sales position. Consider the continuous demand for Wayne home equipment. Get set now — with Wayne — for more sales this year and in future years.

"The Oil Jobbers' Complete Line"

- ***Write For Wayne Franchise Details.***

FOR GREATER SALES AND PROFIT IN 1951

FOR GREATER SALES AND PROFIT IN 1952

1953

1954

1955

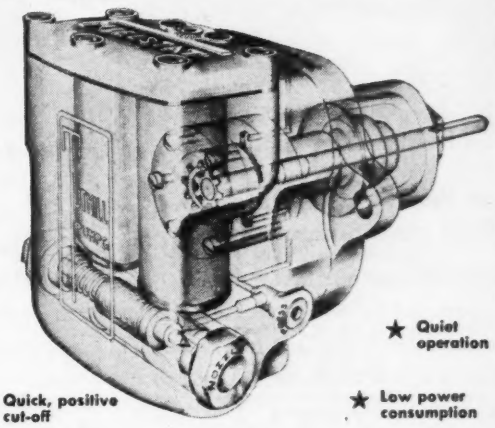
WAYNE HOME EQUIPMENT CO., INC.

800 GLASGOW AVE. FORT WAYNE 4, INDIANA

INSIDE STORY OF PROVED PERFORMANCE

★ Strainer removable without spilling

★ Cast iron pump unit encased in 45,000 p.s.i. tensile strength zinc alloy



★ Quiet operation

★ Quick, positive cut-off

★ Low power consumption

★ Light weight

TUTHILL 30E6N FUELSTAT

Provides

- *UNIVERSAL APPLICATION*
- *DEPENDABLE PERFORMANCE*
- *SIMPLIFIED SERVICING*
- *GREATER ECONOMY*
- *MORE ATTRACTIVE APPEARANCE*

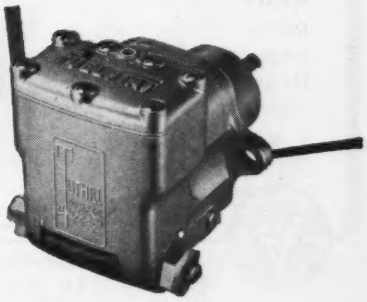
Proved by thousands already in service, this perfected Tuthill Fuelstat sets the pace for dependable pumping equipment. All working parts are made of cast iron and steel with high grade (99.99+% pure) zinc alloy body to obtain the ultimate in toughness, durability, corrosion resistance and leak-free performance.

It will pay you to write for full details today

Tuthill

PUMP COMPANY

939 East 95th Street
Chicago 19, Illinois
Phone: REgent 4-7420



American Institute of Architects. Ralph Walker, president of the AIA, made the award to Ralph Patterson, general sales manager, Bell & Gossett Co., Morton Grove, Ill., during the Institute's annual convention at the Edgewater Beach Hotel, Chicago.

Mr. Patterson expressed gratification for this "tribute to our engineering and research staffs for the preparation of this manual." The Handbook includes the latest design data on all types of hot water heating and instead of limiting its contents to B & G products, all phases of heating problems are included, such as radiant panel heating, domestic hot water heating and specific data on latest heating controls.

Water Service Laboratories offers maintenance Bulletins

A SERIES of maintenance bulletins has been prepared by Water Service Laboratories, New York 27, N. Y., on a number of subjects concerned with hot water heating equipment. The single page technical bulletins are designed to explain water treating services that check corrosion of iron, brass and copper water piping systems and minimize scale and corrosion in boilers.

Subjects covered include "The care of heating boilers," "Hot water circulation," "The care of hot water tanks and coils"; "Hot water temperature control" and "Radiator traps." These bulletins present a thorough discussion of the functions of particular types of equipment and offer solutions for common complaints that arise from defective equipment, rust and sediment accumulations and other causes.

Skuttle develops counter Display for Humidifier

A COUNTER AND WINDOW DISPLAY has been developed by the Skuttle Mfg. Co., Detroit 7, Mich., consisting of a card, printed in orange "Dayglo" ink, combined with a stand and a Series 600 humidifier. The sales message the card presents is brief and to the point, emphasizing the advantages of the units.

Cards are offered free to Skuttle jobbers and dealers, with replacement cards furnished as requested. The stand is of permanent construction and may be used indefinitely. The Series 600 humidifier used in the display is taken from regular stock and may be sold at any time.

Klemm display Stand features three Filters

A COLORFUL counter or window display-stand, designed to hold one large and two small fueloil filters, is being offered to its dealers and jobbers free of charge by Klemm Automotive Products Co., Chicago 47, Ill. The stand contains a red base against a bright yellow background and is shipped flat with instructions for assembling.

The background contains a die-cut illustration of a filter and a picture of a Chemistone filtering element.

Owens-Corning catalog lists filter Sizes for Conditioners

A REVISED CATALOG of air filter sizes for air conditioning units has been released by Owens-Corning Fiberglas Corp., Toledo, Ohio. Copies of the 16-page booklet are offered by the company through manufacturers of air conditioning equipment.

SKINNER V2-type VALVE

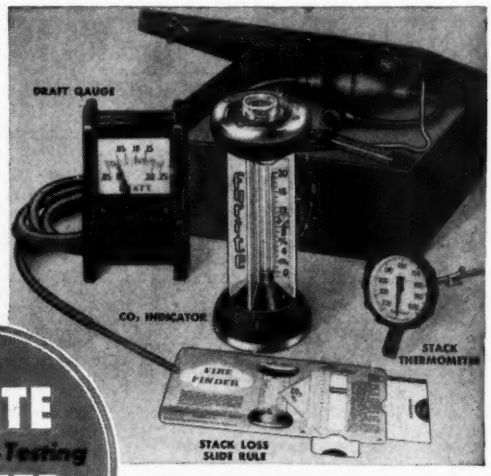
★ relief
★ shut-off
★ drip-eliminator

OUTSTANDING PERFORMANCE & ECONOMY

On original oil burner equipment or for service replacement, new standards of performance are yours with the low-cost Skinner V2 Solenoid Valve! Sturdy steel parts are plated to resist corrosion — compact — weighs only 9 oz. — usable in any position! Soft synthetic seat and seals prevent leakage, and spring loading assures positive operation. There are no brazed, welded, soldered pressure joints, or threaded parts to loosen under vibration. Maximum pressure is 125 P.S.I. — rated at 10 watts max. — Underwriters' approved. Relief model is 2 way, normally open. Drip-eliminator or shut-off is 2 way, normally closed.

Write for details and low prices!

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
141 Belden Ave., Norwalk, Conn.



The FYRITE Combustion-Testing MASTER KIT

Helps You Build Profits and Prestige

Combustion-testing builds business in two ways. First, it boosts service profits because with instruments any service job can be done in less time and by less experienced men. Second, it brings in new equipment business by spotting fuel-wasting burners through a dramatic "fuel-saving" check-up which will convince even the most skeptical customer of the need for replacement or modernization.

Keying your sales and service to fuel conservation will work wonders for you. It will establish you as a "fuel-saving" expert and help you corner an even larger share of immediate and future sales in your community.

The MASTER KIT shown above will appeal particularly to those who want professional implements of highest quality and reliability, as well as of impressive display. The cost of the kit is very small compared to the sales and service profits it will bring you.

Ask your Jobber or Write for Bulletin 733

BACHARACH Industrial Instrument Co.
7000 BENNETT STREET • • PITTSBURGH 8, PA.

A Super Red Streak Is Your Best Salesman

Furnace cleaning with a Super Red Streak brings you added income in two ways. Your customers get more heat comfort from the oil they buy. You make a nice profit by cleaning all kinds of heating plants, and keep in touch with new plant prospects. Don't leave this remunerative business to your competitors.

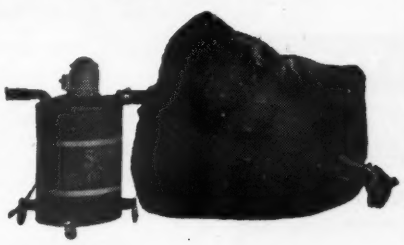
- **The Super Oil Soot Filter Bag is constructed to avoid clogging, thus eliminating the back pressure that destroys ordinary bags. It is available at nominal extra cost.**

Super suction tube scrapers make it easy to clean fire tube boilers. Chimney cleaning tools are included in the standard equipment.

Try a Super 5 days FREE.

Our FREE Super Plan Book tells you how to start and operate a furnace cleaning department. Ask your supply dealer or write.

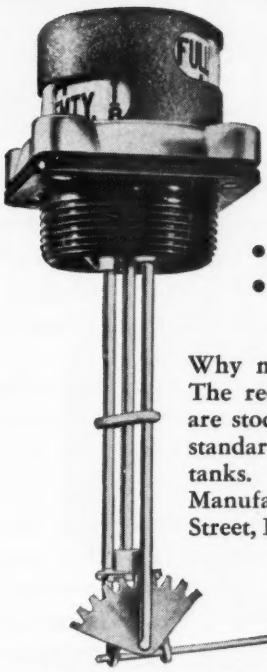
National Super Service Co., Inc.
1951 N. 12th St.,
Toledo 2, Ohio



SUPER SUCTION
SINCE 1911 ®
"THE DRAFT HORSE OF POWER SUCTION CLEANERS"

Keep service costs down

WITH



Rochester

"DUAL-DIAL" GAUGES

- **Leak Proof** • **Pressure Tight**
- **Easy to Read** • **Easy to Install**
- **Underwriters' Listed**

Why make unnecessary service calls? The recognized leader*, "Dual-Dials" are stocked by your wholesaler for all standard basement oil burner storage tanks. ORDER TODAY! Rochester Manufacturing Co., Inc., 66 Rockwood Street, Rochester 10, New York.

Fuel Oil Tank Gauges since 1922

ROCHESTER
MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS GAUGES AMMETERS

ROCHESTER DEPENDABLE ACCURACY GAUGES

Customers are still hard-to-please!

Despite rumors and uncertainty about the future, people haven't started grabbing the first oil burner they can lay their hands on. Far from it! When it comes to getting their hard-earned money's worth, today's customers are more particular than ever.

All the more reason why you, as a dealer, should be particular about the oil burner you *sell*. The hardest-to-please customer is the *easiest* to please—with a world-renowned, fuel-thrifty, quality-made QUIET MAY!

MAY OIL BURNER division of Gerotor May Corp.
P. O. Box 86, Baltimore 3, Md.

Know your Costs

(*Begins on page* 43)

"In spite of the fact that we have absorbed several price increases in the cost of equipment and parts, to say nothing of very much higher labor costs, we still find competition cutting prices and making a lot of wild promises which we have every reason to feel will never be fulfilled."

In passing, this particular reporting company, its owners and several of its executives are well and widely known.

The author's personal, first-hand acquaintance dates back perhaps twelve or thirteen years at which time so-called free burner service and promiscuous price cutting were almost as common in their community as were the taxpayer's depreciated dollars which were so freely squandered in various "boondoggling" projects and as have been so commonly distributed to the four quarters of the earth.

This particular company has long been noted for its outstanding leadership in such a field, and their prices for equipment were consistently higher than most of their competitors and burner service definitely was as high or higher than anyone else was charging for service. Even a presidential proclamation is not likely to have enabled anyone to obtain a cut price on oil. They knew their costs and through each one of the many years they have been in business, they have consistently made a good profit.

Truly, at times they have been annoyed by some of the vicious, unsound practices pursued by some of their competitors but knowing their costs and also how to sell and install equipment and deliver their oil, they have never been tempted to deviate from their high quality standards.

The message above quoted was submitted more in wonderment than anything else, because in this modern day and age, not withstanding the many wrecks in bankruptcy strewn along the pathway, there are still "cuckoo birds" whose business conduct is still far below any reasonable level of business sanity and sagacity.

Maybe it is true, after all, that the fellow, who cuts the price, does so because he knows better than anyone else that his products and services are inferior to those offered by competitors.

The principle of cost consciousness may and should be directed along constructive, preventive lines founded on the bedrock of a policy ideal carefully preconceived and made increasingly invulnerable through the actual conduct of the business.

To work from a proper perspective in developing such policy, consideration must be given to all of these:

1. There is no substitute for good, old-fashioned hard work.

2. The story of Santa Claus, while a pleasant myth in infancy, is really about a nonexistent person in fact, except perhaps to the privileged few who have "five-percenters" or their equivalent, milking funds out of some public trough financed at the expense of the taxpayers at large. Unless supported by subsidy, the independent fueloil distributor cannot play Santa Claus to all his customers.

3. The enterprise must fill a practical need in the community.

4. The products and/or service ren-

THE *Delta* WINTER AIR CONDITIONER
WITH FOUR STAR FEATURES!

MODEL HB 90
VERTICAL FLOW
FOR CONVENTIONAL USE

MODEL CF 90
COUNTER FLOW
FOR PERIMETER HEATING

Send for
COMPLETE LITERATURE

- Only 5' 2" from top to bottom
- 90,000 BTU's bonnet output
- Extremely efficient in operation
- Factory assembled — ready for installation
- Famous Delta Flanged Oil Burner
- Large Access and Inspection Door

DELTA HEATING CORPORATION
COLE ST. at READING R. R. • TRENTON 8, NEW JERSEY

GAS & OIL BURNERS • BOILERS • FLOOR, WALL & SUSPENDED FURNACES

PREFERRED
DRAFT-A-JUSTORS

Cut Fuel Consumption by

10% TO 30%

The *Preferred* Draft-A-Justor is the original, patented Draft-A-Justor . . . improved to include the latest in engineering developments.

Stainless steel bearings and weather resistant metals provide long-life service without breakdown due to rust or wear . . . assure *continuous* fuel savings.

Millions now in satisfactory use.

WRITE FOR DESCRIPTIVE LITERATURE AND TRADE PRICES.

SIZES

Stove, domestic and commercial sizes from 4" to 24" in diameter.

Industrial sizes from 2' x 2' to 5' x 12'.

PREFERRED UTILITIES MFG. CORP.
1860 Broadway, New York 23, N. Y. Boston Office: 839 Beacon St.

ENGINEERED FOR YOUR BURNER

ACME ELECTRIC CORP.
507 WATER ST. CUBA, N. Y.

Acme ACME Electric
TRANSFORMERS

MAKE YOURS A *Year-round Business*

with slack-season Furnace Cleaning jobs!

NEW furnace and boiler cleaning jobs . . . and repeat business from satisfied customers . . . that's where G-E Furnace Cleaners pay off royally.

Your spring and summer slump can be *busy* and *profitable* seasons for you if you take advantage of what these modern G-E cleaners have to offer. With a little effort on your part they will do more than their share toward keeping your crews *profitably busy* during the slack fuel season.

And these cleaners are compact, powerful, efficient . . . easy to operate and move about. They surely help you do the work and do it *well* while cutting your cleaning time.

Here's an ideal way to increase your annual volume.

Each unit converts quickly to powerful *blower* action for loosening soot in stubborn corners. Special G-E Furnace and Boiler cleaning equipment includes Chimney Flue Brush, Duct Brush, Shield, Crank and 32 feet of extensions.

MAIL COUPON FOR DETAILS

Furnace and Boiler Cleaners

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, Dept. 22-1633
1285 Boston Ave., Bridgeport 2, Conn.

Without obligation, please send complete details on heavy-duty cleaning equipment.

NAME .....

FIRM .....

ADDRESS .....

CITY ..... STATE .....

dered must have inherent quality and the proper application so that there is no deficiency in respect to the work or results expected by the consumer.

5. The conduct of the business must be carried on through properly selected and competently trained personnel, all of whom must, in a practical way, appreciate the opportunity to be of service to the consumer.

The above service ideal, faithfully rendered, naturally means that the owners of the enterprise have every right to expect and receive a reasonable reward, commonly known as profit in return for the commodity and/or service rendered.

The fueloil man who takes the time and exerts the effort through simple enough cost finding facilities to know his cost will the better be enabled to creditably fulfill his obligation to the consuming public, to his employees, and to his stockholders, to say nothing of sharing the responsibility for the industry at large in maintaining a high level of wholesome public relations.

* * * * *

Is the reader still patient? The next article in this series will portray some rather surprising revelations from a rather unusual viewpoint.

❖

Sheldon Coleman, for the last 11 years executive vice-president and general manager of The Coleman Co., Inc., Wichita 1, Kan., has been elected president of the company, succeeding his father, W. C. Coleman, who founded the firm in 1900, had served continuously as its president and continues as chairman of the board. Sheldon Coleman joined the company in 1925 and worked for 15 years in the company's Toronto plant and in Wichita before becoming executive vice president. He was instrumental in putting the company into the field of gas and oilfired heating equipment and is credited with having introduced new ideas and techniques into home heating manufacturing. He is past president of the Institute of Cooking and Heating Manufacturers and is serving on the industry's advisory committee to the Office of Price Stabilization. Mr. Coleman is retaining the position of general manager.

Burchard E. Horne, president and treasurer, Watts Regulator Co., passed away suddenly on May 28 while on a fishing trip in Canada. Mr. Horne was born in Lawrence, Mass. in 1887 and upon completion of his education became associated with his father in the Geo. W. Horne Roofing Co. In 1918, with two associates, he purchased the interests of Watts Regulator Co. and in 1923 he acquired the entire interests of the company. He was active in the management of Watts for 28 years, setting up its policies, directing its activities and developing new products. He was active, as well in trade association, fraternal and Boy Scout work. He is survived by his wife, Mildred V. Horne; a son, George B. Horne, his mother, Mrs. Minnie L. Horne and four grandchildren.

They are designed to be installed easily and quickly in dark or close quarters . . . and they cannot fall off when blower or pump units are serviced. Here is positive correction for mis-alignment, shock, surge, vibration, backlash . . . with extreme quiet. Use these maintenance-saving couplings for pumps, fans, blowers, power transmission from motor to equipment. Most fan manufacturers supply blowers with L-R jaws on blower hubs at no extra cost.

SEND FOR LOVEJOY BULLETIN 514

OHI

LOVEJOY FLEXIBLE COUPLING CO.

5012 W. Lake Street Chicago 44, Ill.

Mfrs. of Lovejoy Flexible Couplings for all industrial services. Lovejoy Variable Speed Transmissions and Lovejoy Universal Joints.

AUTOCRAT OIL BURNERS

OFFER

HEAT

PLUS

ECONOMY

FOR YOUR CUSTOMERS

with the NEW COMBUSTION HEAD

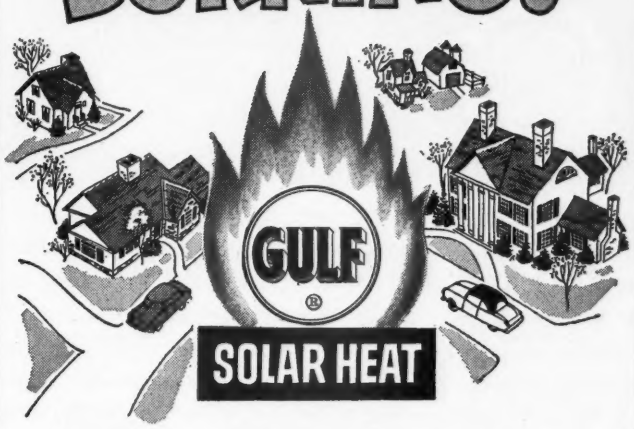
This famous Autocrat Line is one of the oldest and finest in America. As a Dealer, you can safely recommend Autocrat Oil Burners to your customers. You may promise efficiency, dependability and economy . . . and Autocrat with the new Combustion Head will live up to your promises. Write at once for prices and liberal Dealer discounts.

Manufactured by

CHANDLER COMPANY

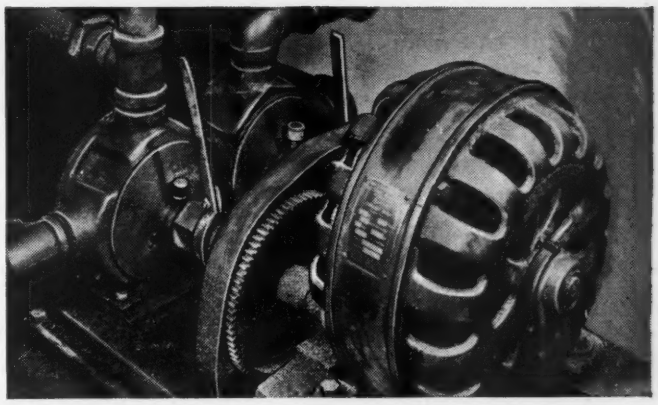
CEDAR RAPIDS, IOWA

KEEPS THE HOME FIRES
(and Customer-Confidence)
BURNING!



Customer confidence takes time to build up. Fifty years of service, experience and research have built for Gulf and its dealers a unique public acceptance so wide that instead of just ordering "fuel oil," it has become second nature to thousands to say: *"Gulf Solar Heat!"*

GULF OIL CORPORATION • GULF REFINING COMPANY



A 1915 model at work.

There's something of this old Work-Horse in every VIKING PUMP

This old-timer probably does not look like Viking pumps you are now using, but something of this old work-horse has always been built into every Viking pump. The ingredients of that "something" are: ONE, the operating principle (most copied of all rotary pump designs) and, TWO, the old-time skill and workmanship of generation after generation of expert craftsmen.

When you specify Viking, you are sure of a good name, a good product and good pumping service. Send for free bulletin 1507EE.

Viking PUMP COMPANY
Cedar Falls, Iowa

PREFERRED
Anti-Syphon Valves

PR-194

APPROVED BY
UNDERWRITERS' LABORATORIES, INC.

Permits pumping of oil but closes to prevent syphoning in case of suction line break.

FOR OILS UP TO No. 5
Valves C5 and C10 are available in ⅜" and ½" sizes.

FOR OILS UP TO AND INCLUDING No. 5
Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size with fittings.)

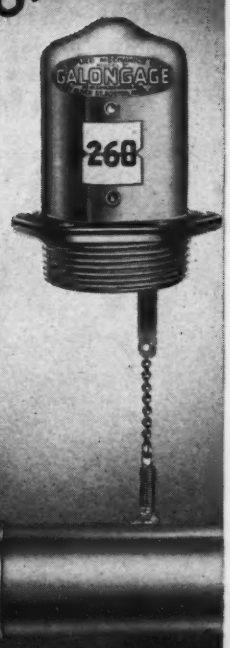
FOR OILS UP TO AND INCLUDING No. 6
Valve A is available in 1¼", 1½" and 2" sizes for 5 or 10-foot head pressures.

You can be sure of the best when you order from Preferred, the oldest and the largest manufacturer of anti-syphon valves.

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY, NEW YORK 23, N.Y.

GALONGAGE...

FOR TOP PERFORMANCE



Galongage is designed to meet the most exacting requirements and do credit to the finest installation. Quality construction practically eliminates unprofitable service calls and bothersome adjustments.

When making replacements or checking oil burners install Galongage for greater efficiency and customer satisfaction. Approved by Underwriters' Laboratories.

Write today for full particulars.

APPLIED MECHANICS COMPANY
167 OLIVER STREET, BOSTON 10, MASSACHUSETTS

Now you can "see" the Air

(*Begins on page* 38)

tion. If the oil was being well atomized at the higher of those pressures, it was less so at the lower pressure.

This instrument opens up a fresh approach to combustion efficiencies. Designed primarily to help with selecting the right nozzles for all models, it can have an even greater value in the hands of oilburner design engineers. It is fairly easy to know an oil spray pattern; you can see it, photograph it and study its densities. Now that it is possible to also know the exact air pattern at every point of the gun tube and at any point in front of it, there need be no further mystery about how the oil and air are being mixed. By comparing various combinations that are possible through adjusting or redesigning a burner and recording the CO_2, stack temperature and smoke index, real strides toward higher efficiencies are possible.

It should be noted that the burner illustrated in the two photographs is a Lynn model made by the Boston Machine Works Co. The tests that are recorded on the charts were not run on this burner. They were run on two other makes of burners sent in for laboratory testing at Lynn. Each is a big name brand, and you can see a great divergence between their operating characteristics.

Dennis wants burner manufacturers to have this air pattern instrument. There are not enough possible sales for it to make it a commercial proposition, so its design is offered free. It is easy to make and any burner manufacturer who wants to make one in his own plant can get the blueprints and other details from Dennis. If on the other hand he doesn't want to make it, Dennis will supply one for $35.00 which is his cost, made in a pattern shop.

This whole development is a noteworthy contribution by the company to the improvement of performance standards in American oilheating.

❖

Ludwig Goetz, who began Hago Products, Irvington, N. J., with Herman Harsch as a partner, died on May 20 after a long illness.

Sparky and Summer Clean-ups

(*Begins on page* 40)

man, I've got to state that any service man who goes around these days without a good flame mirror is a jackass!" Sparky stated flatly. "Now on this job I've got to use the flame mirror to make certain both sparks are working properly, and all four spark points are set right. I check the oil spray from the two nozzles with the flame mirror. I make certain there's no oil impingement on the air-handling parts near the nozzles. With fancy firing heads being used more and more today, a service man's got to use a flame mirror to find out if the fire is burning the right distance from the nozzle, and is not 'burning in' at the end of the gun tube. There's assurance gained by getting a good look at the nozzle, electrodes, and flame with a good flame mirror, and every good service man wants that assurance. Just take the one item of after-burning around the nozzle. If a flame mirror were to be used only to check on that detail, it would pay the service man to have it."

The boiler feed-water pump being

4 Features that add up to
EFFICIENT AIR VENTING

MAID-O'-MIST No. 72 AUTO-VENT

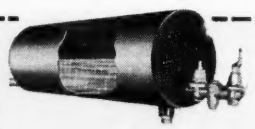
— FOR HOT WATER CONVECTORS, BASEBOARD AND FREE STANDING RADIATION.

Quick and easy to install — ⅛" I.P. connection. For vertical or horizontal mounting.

Fast action venting is what you want in an expansion-type air vent. Well, here's why the No. 72 Auto-Vent gives you a faster venting cycle.

1. Special internal siphon tube prevents water logging and speeds up venting action.
2. All expansion and contraction restricted to 4 slots. Special composition disc dries fast for faster venting.
3. Cap is tamper-proof, yet easy to remove for cleaning, if necessary.
4. Non-ferrous metals means no corrosion.

MAID-O'-MIST INC.
AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS
3221 N. PULASKI RD.
CHICAGO 41, ILLINOIS



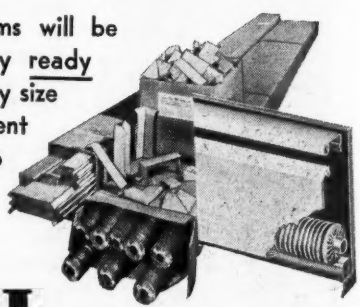
DE-AIRATOR TANK ELIMINATES AIR TROUBLE

FOR YOUR SUMMER SALES WE OFFER IMMEDIATE DELIVERY ON

FLOORLEVEL

HOT WATER BASEBOARD RADIATION

Complete systems will be shipped immediately ready to install to meet any size radiation requirement . . . from 200 to 366 sq. ft. of radiation.



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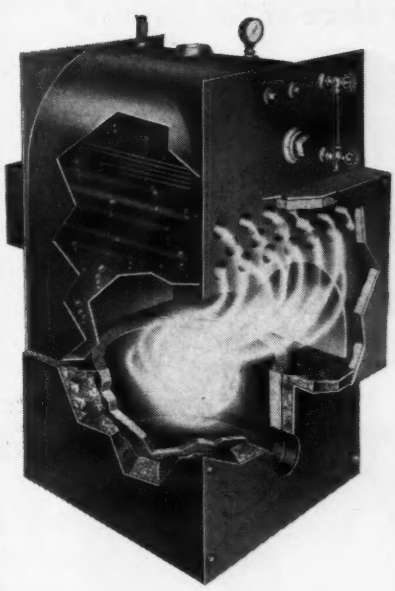

Steam from 400 to 900 sq. ft. Hot water from 640 to 1440 sq. ft.

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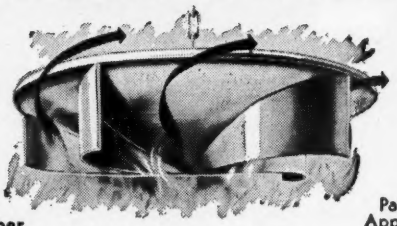

Pat. Appl'd For

FIRE-SWIRL ZEH COMPANY INC., PASSAIC, N.J.

among his responsibilities on this high-pressure steam job, Sparky spent half an hour checking the motor, starter and controls thoroughly, then made ready to leave.

As he packed up all his tools, instruments, etc. with loving care, he turned to me and asked, "Do you really want to see that forced-air job I was telling you at breakfast I made perfect?"

"Well, you've told me an awful lot about it," I answered.

"You, too, thinking about the blonde dame," he chuckled, "Well, here goes. We'll drive out there and take a look. It'll be our last call today."

No blonde young lady entered the basement while Sparky put all his combustion test instruments through their paces on this pet job of his. Using the two test holes he'd made in the smoke-pipe for taking CO_2 and smoke readings while the stack thermometer was warming up, he quickly proved to me the smoke was between #2 and #3 on his smoke chart, the CO_2 was $11\frac{1}{2}\%$, and the stack temperature was 405°. He had demonstrated again the benefits of using his new flame mirror when a short, stout lady, who I gathered was the mother of the interesting blonde, waddled into the equipment room wearing a big smile and carrying a tray loaded with three big drinks.

"A gin drink," she smiled. "It's hot out and we'll all enjoy it.

"I had to give my daughter Clarabelle a terrible scolding last time you were here," she announced turning to Sparky, "Not only did she use up half

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Service-Proved Products Make Combustion Chamber Installations Better and Easier

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a bottle of her father's precious Scotch, the kind that he says is smoky and that's so hard to get because it's ages and ages old, but on top of that she was insulting. You must have heard her tell me that an old goat like you looks so funny when he'd had a drink that she just couldn't help pouring you another and another and watching how you dropped all your tools when you tried to take the oilburner apart.

"Youngsters of today need more respect for their elders, and will you have another drink now?" she asked.

Sparky said "Drat women anyhow!" a few times as we drove off in his car a few minutes later.

"There's one dame who keeps nagging me about the thermometer on her room thermostat," he pointed out. "It reads a few degrees different than the wonderful, expensive thermometer her darling daughter sent her for Christmas. The daughter must be a spoiled kid, just like the one in the house we just left. Imagine, sending an expensive thermometer to an old warhorse, so she'll start making life miserable for the service man!

"It's supposed to be a man's world, but it's not," he complained. "It's getting so a man spends all his time either thinking about women or taking orders from them. I'll tell you one thing: The next time a woman offers me a drink, even on my last call of the day, I'm going to refuse it, simply and with dignity!"

❖

T. E. Carson, Sherwood Bros., Baltimore, Md., has been elected to the board of the Baltimore Better Business Bureau and also has been named state chairman of the Maryland Oil Industry Information Committee.

Clean Combustion

(*Begins on page 46*)

before oil is delivered. The use of a delayed opening oil valve can materially reduce starting smoke.

Flame Impingement

Flame impingement on any cool surface will result in smoke, for the flame is chilled at the point of contact and further combustion ceases at that point. In effect then flame impingement results in a cooling of the flame at that point in the combustion zone and hence can be considered as covered in the third of the four basic causes of smoke. Flame impingement in a pressure gun burner may be caused by overfiring, wrong oil spray pattern (nozzle), defective or partially clogged nozzle, improperly set electrodes, oil pressure too low and improperly positioned burner with respect to combustion chamber.

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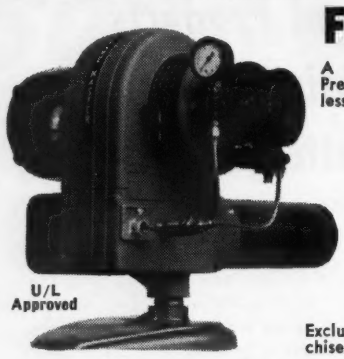

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Nozzles — Adapters — Nozzle Kits
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Nickerson on Differentials

(*Begins on page* 37)

finers in the East and Gulf Coast areas, do not appear to encourage the production of middle distillates. As the year progresses and as greater distillate production is needed to prepare for winter weather, it is to be hoped that OPS will recognize the potential danger in this situation and will take appropriate action."

Mr. Nickerson's other major point emphasized the importance of filling heating oil tanks this summer and early fall. He said that one out of every 57 gallons of crude oil produced in the entire world is consumed in New England in the form of burning and light heating oils and that the New England States consume even more heating oil than gasoline.

Adequate stocks of oil must be built up before cold weather, he cautioned, and outlined a program of cooperation by householders, distributors and refiners to accomplish a goal of having a substantial portion of the winter's fuel-oil requirements in storage in New England by early November. Much of this storage capacity consists of the tanks of the one million consumers who burn fueloil in New England and these Mr. Nickerson urged be filled during the summer.

To illustrate the importance of such activity, it was pointed out that only 11.5% of annual heating oil sales are accounted for during the summer months, while 44% are concentrated during December, January and February. Supply difficulties could arise if next winter is abnormally cold, Mr.

Glider

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Petroleum chemical used in fuel oil tanks to cleanse and keep tanks clean, also to operate oil burner with clean fire and eliminate service calls.

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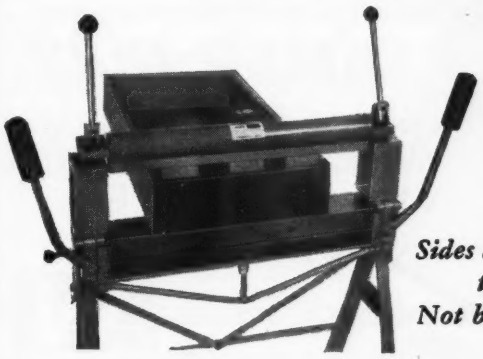
Nickerson declared, and suggested:

"First, I should like to point out the extreme desirability—even the necessity—of the reseller cooperating with his supplier or suppliers, if he has more than one, in the matter of filling all his available storage during the summer and keeping it full during the fall and until the middle of November." This, he said, should be coupled with a program to fill customers' tanks and keep them filled insofar as possible until the middle of November.

"Second," he concluded, "I should like to suggest that, as a matter of sound business principle, no reseller allow his customer demand to increase beyond the stated ability of his supplier or suppliers to provide him with products."

Joseph B. Wells, executive director, IOMA, echoed Mr. Nickerson's sentiments about summer fill-ups when he stated during a discussion that preceded Mr. Nickerson's talk, "We have it within our power to have in storage at the end of this summer from 35% to 40% of all the fueloil that would be required for a normal winter during the 1951-52 heating season." Mr. Wells broke this down into the available 5,500,000 to 6,000,000 barrels storage in New England terminals, 2,500,000 barrels at bulk plant level and an approximate additional 7,000,000 barrels in domestic tanks. The complete New England storage capacity thus is about 15,000,000 barrels, said Mr. Wells, or 37.5% of the 40,000,000 barrel consumption which a normal winter, plus this year's potential increase in burners, would require.



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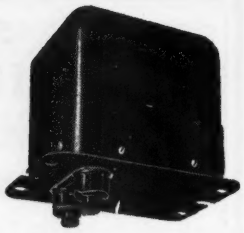

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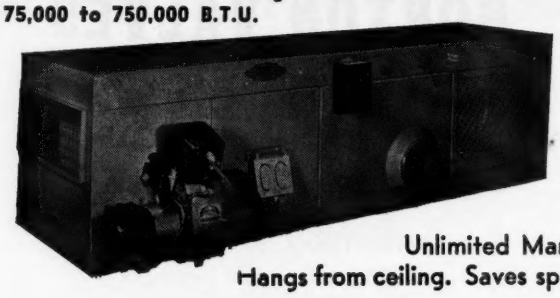

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Hangs from ceiling. Saves space.
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Oilheating Trends

(*Begins on page 12*)

the year we would get about 737,000 total installations.

By sections the 1951 predictions compared with 1950 are: New England down 11%; Mid-Atlantic down 10%; Midwest down 20%; Pacific Northwest down 16%.

FUELOIL SUPPLY POLICY: Just under two-thirds of the reporting fueloil distributors say that they now have their own bulk storage filled and plan to keep it that way through the summer. Another 14% plan to keep low fueloil inventories through the summer and the remaining 20% of reporting distributors are uncertain as to their policy. It is very significant that such a large number of marketers will go along with the full storage request of the major suppliers and the government. Asked whether they plan a stronger than normal campaign to get customer tanks filled this summer, again two-thirds of the fueloil distributors are doing this.

There has been quite a lot of talk about restrictions being placed on fueloil supply for the individual distributor for next season. Among all reporting companies 27% have been given some such restriction. Asked the nature of the restriction, most of the restricted companies say that they have been promised no increase next season over last. Some others have been told that they must take a specific amount of their year's requirements by designated dates and, since they do not have the storage capacity to handle their needs in that way, it amounts to the

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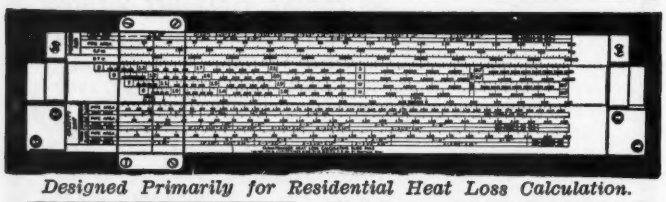

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same as a volume restriction. A few marketers have been given specific limited increases ranging from 5% to 20% but mostly from 8 to 10%.

The distributors were then asked if, in case they were restricted, they believed that they could get all of the fueloil they would need from other sources. On this question 57% voted yes and 43% voted no. Notice that these percentages apply only to the restricted group. If they were applied to all fueloil distributors it would indicate that about 1 in 8 are unable at this time to see how they can get all of the fueloil they will need for their customers. The group was then asked whether the individual companies were holding back oilburner sales because of uncertain fueloil supply and the answers showed 9% yes and 91% no. Summing up these impressions, 85 to 90% of fueloil marketers are confident of getting all the supply they need and will sell all of the oilburners that they can. To help make this possible two-thirds are cooperating fully in a full storage campaign.

FUELOIL STOCKS: Stocks of distillate fuels at refineries, terminals and in transit East of the Rockies on June 9 were 48,134,000 barrels. On the corresponding date last year they were 33,475,000 barrels and two years ago were 49,976,000 barrels. Considering that the expected demand for heating oil next winter will be only 10 to 12% above last season the comparative stock positions are quite favorable. The largest pick-up is in the Midwest where stocks are 75% above a year ago, resulting in a recent 1/8¢ price drop.

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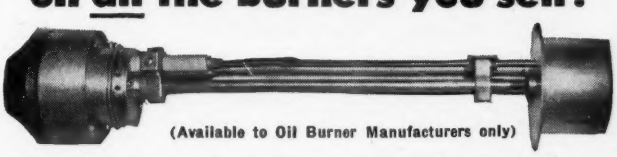
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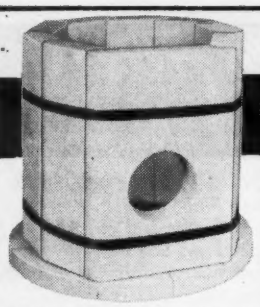

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DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	May		Percent		(Sept. 1, to May 31)			Percent
Normal	1950	1951	Change*		Normal	1950	1951	Change*
221	238	220	— 0.4	Albany	6587	6674	6431	— 2.3
32	8	33	+ 3.1	Atlanta	2999	2519	3111	+ 3.7
99	102	74	— 25.2	Baltimore	4509	3928	4134	— 8.3
248	280	215	— 13.3	Boston	5853	5546	5068	— 13.4
351	250	246	— 29.9	Buffalo	6805	6443	6348	— 6.7
259	231	165	— 36.3	Chicago	6205	6007	6163	— 0.6
132	56	79	— 40.1	Cincinnati	4993	4150	4772	— 4.4
255	203	168	— 34.1	Cleveland	6094	5562	5798	— 4.8
14	2	5	— 64.3	Dallas	2378	2083	2298	— 3.3
271	356	218	— 19.5	Denver	5784	5253	5383	— 6.9
165	139	115	— 30.3	Des Moines	6356	6510	7158	+ 12.6
252	211	192	— 23.8	Detroit	6502	6271	6275	— 3.5
263	178	171	— 35.0	Grand Rapids	6655	6422	6342	— 4.7
216	236	179	— 17.1	Hartford	6037	5953	5502	— 8.8
409	506	394	— 3.6	Helena	7600	8489	8321	+ 9.4
12	0	0	..	Houston	1333	886	1207	— 9.4
155	70	89	— 42.6	Indianapolis	5459	4929	5567	+ 1.9
106	38	55	— 48.1	Kansas City	4971	4733	5119	+ 2.9
104	155	69	— 33.6	Los Angeles	1362	1527	1124	— 17.4
92	47	65	— 29.3	Louisville	4421	3998	4624	+ 4.5
340	369	240	— 29.4	Milwaukee	6955	7044	7347	+ 5.6
255	287	132	— 48.2	Minneapolis	7898	8348	8406	+ 6.4
1	105	0	..	New Orleans	1208	1087	1226	+ 1.5
176	204	121	— 31.2	New York	5270	4643	4591	— 12.9
152	142	94	— 38.1	Omaha	6074	6428	6517	+ 7.3
115	148	85	— 26.1	Philadelphia	4720	4348	4366	— 7.5
170	98	109	— 35.9	Pittsburgh	5427	4818	5099	— 6.0
375	371	347	— 7.4	Portland, Me.	7128	7290	6754	— 5.2
241	259	207	— 14.1	Portland, Ore.	4214	4552	3919	— 7.0
245	252	189	— 22.8	Providence	5946	5444	4931	— 17.0
86	69	73	— 15.1	Roanoke, Va.	4114	3855	4344	+ 5.6
88	41	55	— 37.5	St. Louis	4602	4258	4975	+ 8.1
233	303	181	— 22.3	Salt Lake City	5568	5356	5000	— 10.2
252	316	240	— 4.7	San Francisco	2569	2790	2452	— 4.5
485	507	363	— 25.1	Sault Ste. Marie	8901	9183	8536	— 4.1
304	332	244	— 19.7	Seattle	4560	4868	4178	— 8.3
226	194	180	— 20.3	Toledo	6202	6114	6357	+ 2.5
104	74	68	— 34.6	Washington	4582	3804	4079	— 10.9

*Compared with last year, not with normal. Note: Above figures secured from Monthly Meteorological Summaries published by U. S. Weather Bureau offices in individual cities.

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